

THE
AMERICAN FARMER:
DEVOTED TO
Agriculture, Horticulture and Rural Economy.
[ESTABLISHED 1818.]



Sixth Series.

BALTIMORE, JULY, 1866.

Vol. I.—No. 1.

The Old Farmer to its Old Friends.

Good Friends:—The Old FARMER, after four years of absence, greets you once again. For more than forty years, he was wont to visit your peaceful fields, and happy firesides. Why he has been so long away, the history of the times just past will tell. Sad and dreary times to every human heart, they have been; ruinous, desolating, deathful, to the best and the bravest—there was no place for the work we had to do. Our ways are the ways of peace; our counsels are for seasons of quietness; our work is the work of Him, who made to grow out of the ground every plant that is “pleasant to the sight, and good for food;” whose pleasure it is, that the earth bring forth her increase, and men made after His glorious image multiply. What had we to do, then, when the work of the day was not to destroy life only, but to break up all its springs and sources; when fields were blasted, and store-houses and barns were burned, and firesides were desolated, and all science, and all knowledge, and all the mental resources, and physical energies, of a great people, North and South, were devoted to the one work of devastation and slaughter?

And now, as quiet has come over the scene again, and our work of peace is renewed, we find many whose lot has lain outside of the bloody track of war, and whose happy fortune has been, not in the way of its desolations. They have well anticipated what we would first say to them, for we know not when, or where, there has been such outpouring of affectionate sympathy, in so substantial a form, as has been shown by the women of Maryland, and their cheerful helpers, in the work of Southern relief. We will not say to them, what they know so well, how great the

need is, that in such well-doing they be not too soon weary.

To most of our old friends, we come again with the feeling of one who visits the house of mourning, when a cruel death has struck down its best-beloved, or a desolating calamity has swept away its earthly support. Our first thoughts can be those only of sadness and sympathy, like the friends of the stricken old man, who came “to bemoan him, and to comfort him, over all the evil that the Lord had brought upon him.” Let us hope that, as with him, “the latter end” may be “more blessed than the beginning;” that the “seven thousand sheep” may, ere long, be “fourteen thousand,” the “three thousand camels” “six thousand,” and the “five hundred yoke of oxen” “a thousand yoke.” For “the young men who are dead,” may others soon grow to fill their places, and may the daughters be still, like the daughters of the old man of Uz, “For in all the land no women were found so fair.”

The American Farmer.

At the beginning of the year 1862, we announced, as the article we copy below, from a New York contemporary, bears witness, the suspension of “*The American Farmer*,” till such time as “the storm of civil discord should have spent itself.” Six months, we thought, might bring about that happy and hoped-for event. How we, with thousands of others, were mistaken, is a matter of history. When the war ceased, having incurred the evil of a long suspension, and a very considerable pecuniary loss, it was not deemed advisable to assume a heavy expense, too long in advance of the expected renewal of prosperity in the great field of our labor, the Southern States.

1513584
Aug 19

MD Dept

For a new enterprise, our catholic title, "The American Farmer," would be presumptuous.—But it is ours of right, and by prescription. It was assumed when there was no other such "Farmer" in America, and all the land lay open before us, when

"The whole boundless Continent was ours."

"The American Farmer" was first issued on the 1st of April, 1819, by its able and well known editor, John S. Skinner, Esq. It assumed its peculiar character of an exclusively agricultural journal on the suggestion, as we have understood, of the late Dr. Joseph E. Muse, of Cambridge, Md. Mr. Skinner's first design was to publish a political paper, with an agricultural department, but advising with some of the prominent agriculturists of the State, he was urged, by Dr. Muse especially, to undertake what was considered a somewhat hazardous enterprise. Dr. Muse was well known for his devotion to science and experimental agriculture, and from the first number of "The American Farmer," through a period of thirty years, was a frequent contributor to its pages. Mr. Skinner's editorial charge of "The Farmer" continued through some sixteen years, and he made its character as national as its name.

As in the course of years, able and numerous competitors in the same field of labor, sprung up at different points, especially in New York and the Eastern States, "The Farmer" became, more exclusively, a Middle and Southern State Journal. While it has had many friends in all the States, it has, of late years, circulated mainly in Maryland and the States immediately around, and in all the Southern States.

In 1855 the present editor became, by purchase, joint proprietor, and editor of "The Farmer," and in 1858, sole proprietor. A year later, his associate, Mr. Lewis, purchased the interest in it he now holds. When the war made it impossible to communicate with Southern subscribers, and all the business relations were broken up, which were so essential to the interests of the publication, its issue was reluctantly suspended. It is resumed now, with no change of proprietors, editor, printer, or even of type, paper, or general appearance.—It is, what it was well called, "The Old Pioneer," who having gone before, and prepared the way for others, is content now to work in good fellowship with the many, who have taken the field at a later day. We invoke the good offices of old, and new friends, and hope, by their help, as contributors to its pages, and in extending its circulation, to increase its value, and widen the range of its influence.

From "The World," New York, February, 1862.

The American Farmer.

The times—these awful times—chargeable with so many shortcomings—have caused frightful inroads upon the press, in several departments.—Some of the journals have avoided the fatal effects of the storm by shortening sail—reducing their dimensions and curtailing their expenses, while increasing their industry. Others have anchored for a more propitious season, while others again have literally swamped.

Among the casualties we name with regret the suspension of "The American Farmer." We trust it is merely a "suspension." That journal has become historical, and should not be discontinued permanently. It was the first agricultural publication issued in America, commencing more than forty years ago. Its founder and original editor, John S. Skinner, afterward Assistant Postmaster General of the United States, was one of those enthusiasts to whom human progress is largely indebted. A copy of his first volume has been deposited by us with the New York Historical Society, as a memento alike of his character and of social progress in the first art of life—the cultivation of the earth.

The present publishers, Messrs. Worthington & Lewis, of Baltimore, announce that the pressure of the times—the difficulty of circulation and collection in these days of turmoil—compel them to suspend the publication, though they hope to resume on the 1st of July—trusting that before that period "the storm of civil discord shall have spent itself, and that happier days will dawn upon us all;" to all which hopes we freely say, Amen!

While speaking thus chronologically of "The American Farmer" as the "first" agricultural print established in America, (1819,) we do not withdraw anything we have said about the first journalist, Luther Tucker, who, about ten years afterward, (1829,) introduced in his own paper that *popular* mode of treating rural questions, in which "The American Farmer" was originally deficient, and the adoption of which by the agricultural press generally in this country, has made indelible marks in the agricultural literature of the world.

TO KEEP MILK SWEET.—Mr. Kavanah, in reply to a question by a correspondent, said that milk may be kept sweet by keeping it in a clean room in company with fresh water. In some places it is customary to set tubs of water along the middle of the cellar, cave, or milk house, with an arrangement of pipes by which the water can be readily changed twice a day. It is found that this arrangement prevents the milk from being soured even by lightning.

JULY.

"Too long, at clash of arms amid her bowers,
And pools of blood, the earth has stood aghast,
The fair earth that should only blush with flowers
And ruddy fruits; but not for aye can last
The storm, and sweet the sunshine when 'tis past;
Lo, the clouds roll away—they break—they fly,
And like the glorious light of Summer, cast
O'er the wide landscape from the embracing sky,
On all the peaceful world, the smile of Heaven shall lie."

Farm Work for the Month.

However hot the weather, the farmer must brace himself to the appropriate work of the season. Grain harvest, hay harvest, corn and tobacco cultivation, buckwheat sowing, rutabaga sowing, and other minor works, all press upon him now. There is much to be done that must be done quickly, and done well.

WHEAT HARVEST.

The experienced farmer understands the necessity of being well supplied in advance, with all the ways and means for carrying forward, promptly, the saving of his wheat crop. Its preparation is so costly, and its value so great, that any unnecessary delay in securing it would be but the grossest mismanagement. All the necessary labor will be engaged, and all implements put in good order, or new ones supplied.

In a climate where the fiercer heats of summer ripen off the crop very suddenly, he must be watchful, and begin his harvest work at the earliest possible time; remembering that he is more apt to err in putting off too long, than in beginning too soon.

The same remarks are applicable to the Rye and Oat harvests, except that there is not the same pressing necessity in the care of the latter, as they are not liable to damage from a little exposure on the ground after being cut. But the best rule for all, is promptness and despatch in finishing up whatever work may be on hand.

HAY HARVEST.

The hay crop is growing yearly in value, in the Middle and Southern States, and it is necessary that especial attention be given to the method of curing it. It must be borne in mind that a great deal of the value of the crop depends upon its treatment within the few days in which it is submitted to the manipulations of harvesting. The most successful culture, and the most luxuriant growth, will avail little, if skill and due attention in curing be wanting.

There is great and most valuable help for us in the excellent mowers which now abound in

the market. The despatch which they enable us to make, takes away much of the risk of damage by exposure, while they economise greatly the cost of labour. The grass can be cut down rapidly when the weather is fit for curing; the heavy labor of the harvest is borne by horses and mules instead of men, and a careful estimate will show at least half of the cost saved. No one, therefore, who has any considerable crop of hay to secure, can afford to be without a mower.

A few simple rules are all that is necessary to be suggested, and the utmost watchfulness and care must be used in applying them. In order to get the sweetest and best hay, the grass, timothy excepted, perhaps, should be cut very soon after the bloom first appears. It should not be allowed to remain long spread, out in a hot sun, but when fairly wilted, so that, upon pressing it in the hand, the driest portions break a little, it should be thrown into cocks as high as they can be made to stand well, without being made very large. In this condition, they may stand for two days, when they may be thrown open for a few hours, and taken to the stack or barn. Cured in this way, it will look green and bright, and retain the fragrance which is so grateful to our sense of smell, and which makes it very acceptable, we presume, to the cattle. It cannot be doubted that it retains its nutritious qualities entirely beyond that which is exposed on the ground through the hot sun of two or three summer days.

CORN.

There should be little work to do in the corn field this month, under ordinary circumstances. If planted in due time and well cultivated, keeping the grass thoroughly subdued, there should be no occasion for further work. Should it be necessary, however, it must be got entirely clear of grass, and laid by as early as that work can be accomplished.

TOBACCO.

It is to be hoped that the planting, and replanting, are now completed. The first hoeing, which should be begun as soon as there is any appearance of the plants beginning to grow, should now be got through with, early. The dryness of the ground, and the necessity of working very close up to the plant, prove very often fatal, and great care therefore is necessary in this operation.

Either before, or immediately after this hoeing, the plough or shovel should be run with the bar close to the plant, and throwing the earth from them. The second ploughing will throw the earth back, and the second hoeing draw it moderately around the plants, and destroy every vestige of remaining grass.

Keep the flock of turkies in the tobacco, morning and afternoon, that the early glut of worms may be promptly destroyed. The turkies will be very effective, if kept well to their work, as long as the tobacco is small.

POTATOES.

Potatoes may be planted as late as July. To insure quick growth, open a good furrow, and plant while the ground is yet fresh, covering lightly with soil, and then filling the furrow with a mulch of any kind of strawy manure, or even straw itself, or leaves. This will protect the crop from the severe heat of the sun, prevents rapid evaporation, and thus secures, what the potato especially needs, a cool and moist soil. Before putting in the litter, a dressing of super-phosphate, or other good fertilizer, should be thrown in the drill. A mixture of four bushels of leached ashes, one of plaster, and one gallon of salt, makes a good dressing in the absence of other fertilizers; put in the drill, at the rate of about ten bushels to the acre.

MILLET.

If there be occasion to add to the winter's store of good hay, it may be done by sowing the common millet, or that variety of it called Hungarian grass. If there be moisture enough to make it germinate quickly, it makes a rapid growth, and will come off the ground by the first of October. It must be well manured, and on thoroughly prepared ground, to make a good crop. A light, rich loam suits it best.

BUCKWHEAT.

This is a crop not grown largely anywhere; but deserving, perhaps, more attention than it usually gets in the Middle and Southern States. No family should be without a supply of buckwheat flour among their winter stores, for no bread compares with good buckwheat cakes for a winter's breakfast. It is equal, if not superior, to oats, in feeding qualities for stock; it is grown easily, and at little cost for manure, on ordinary land; and has the advantage that a crop may be made very late in the season, interfering very little with the busier times of the farm.

It should not be sown earlier than the middle of the month, and a half bushel of seed to the acre is enough.

It is said to be good for soiling milch cows in the month of August, when in bloom.

BUTA BAGA.

Thorough preparation should be made as early as possible now, for this valuable root crop. If sod ground have already been turned, it should

have soon another ploughing, which, with the necessary hoe work in preparing drills, will give it a very sufficient working. It must be well manured with some good super-phosphate, unless it have been otherwise fertilized, and the seed sown at any time, after the middle of the month, that the ground may be moist.

The Vegetable Garden.

Prepared for The American Farmer, by DANIEL BARKER,
Maryland Agricultural College.

JULY.

ASPARAGUS.

Any more cutting of this crop will injure the plantations. To many it may seem needless to make this remark; but there are some who cut asparagus as long as a new head is to be found. We must advise them to desist, unless they have made up their minds to the policy of killing the goose, &c. Let the beds be pointed up with a fork, all weeds taken off, and the surface covered with a mulch of half-rotted cow dung.

BROCCOLI,

Where grown, should now be got out to furnish a supply during the fall and early winter.—Manure very liberally, and if planted in dry weather, water very freely with weak manure water; better, however, to have the ground ready, and plant immediately after a shower. This will save labor, and give the plants a better start. A free natural growth is especially requisite for broccoli, cabbage, &c.

CAULIFLOWER.

This most delicious vegetable is not cultivated near as much as it deserves. Now is the time to plant out for a late supply. Remember that for this crop the soil cannot be too rich; they will grow well in dung, only if well decomposed.—Cultivate and hoe between those coming forward, but do not draw any soil around the stems except any one be loose at the roots.

CELERY.

Should now be planted for the late main crop. This will require a heavy watering where the ground is dry. Whenever the fly attacks the leaves, pick them off, and burn them. Dustings of coal or soot, we have found very useful, in protecting celery against the ravages of the fly.

LETTUCE.

This useful plant is too much neglected after the early spring months, through the tendency of running to seed in hot weather. This may in some measure be prevented, by sowing in a rich moist soil, in a partial shade.

POTATOES

Where not too far advanced, should be frequently cultivated and hoed between. To those who have not tried it, we would advise to give a top-dressing of wood ashes and guano, between the rows of the main crops. Upon sandy soils we have found such a dressing to considerably increase the produce. As fast as the early crops are taken off, plough and manure for broccoli, cauliflowers, cabbage, turnips and winter greens.

ONIONS

From seed this season, continue to cultivate, and hoe between the rows, and thin to about three inches apart.

Plant, for succession and late crops, *peas, dwarf beans, turnips, radishes, lettuce, endive, cucumbers* for pickles, *sweet corn* for last crop. *Beets* may still be sown for winter use.

Continue to use the cultivator and hoe between the rows of all growing crops.

Cucumbers, melons of all kinds, *squashes, egg-plants, peppers*, with many other similar plants, will be greatly benefitted at this season of the year, by a mulching of partly decayed manure.

The Fruit Garden.

STRAWBERRIES,

Where any are required for forcing, should be potted as soon as rooted, as they make roots faster in pots than in the open ground. Our plan is to lay the best runners in pots, (two-inch,) and when rooted transfer into four-inch, wherein they fruit. Cut away all runners not wanted for young plantations, and supply manure-water liberally to old plants and runners intended for new plantations.

FIGS.

Feed liberally with manure water and give a good top-dressing of quite rotten cow manure.—The young growth should be pinched back.

PEACHES AND NECTARINES

In pots or tubs, should be fully exposed to the atmosphere, the pots or tubs to be sunk about one-third of their depth in the soil. Keep well watered with manure-water, and give a top-dressing of good rotten manure. These trees are, not unfrequently, loaded with superfluous wood. The idea appears to be to have plenty to choose from at the winter pruning. Choose now all that will be wanted, which will have the advantage of ripening properly.

GRAPE VINES

In cold graperies, will now require air, night and day. The admission of a through draft, is to be avoided, as we have found it in many in-

stances to be the cause of mildew. Grapes ripening should not be syringed, but have a moderately moist atmosphere and plenty of air.

Hardy Grape Vines.—Keep the young shoots tied up, and pinch them off from two to three joints above the fruit. Frequent applications of soapsuds and manure water to the roots will be of invaluable benefit to them.

The Flower Garden.

"To deck the shapely knoll,
That, softly swelled, and gaily dressed, appears
A flowery island, from the dark green lawn
Emerging, must be deemed a labor due
To no mean hand, and ask the touch of taste."

It is difficult to conceive of either an elegant or happy home, which has not a flower garden attached; and it is certain, the more we cultivate flowers, the more we are incited to observation of all things which grow, and the more do our minds expand in all that is true, and good, and beautiful.

ROSES.

That class known as "perpetuals" will now be benefitted by pruning back the shoots which have produced flowers, and have a mulching of short manure, with a good supply of manure water in dry weather, to assist the autumn bloom. Buds to be put on the Manetti or other stocks, must be done with discretion. If either the buds, or stocks to be budded, are in a soft state, they will not take. Twelve hours rain will do more to perfect the stocks and buds, than twelve days of artificial watering.

RHODODENDRONS AND AZALIAS.

Whenever these beautiful shrubs are grown, unless seed is wanted, the dead heads of flowers should be entirely removed, being careful to do it without injury to the young shoots. If seeds are allowed to ripen, there will be much less bloom next season. There is no shrub more orderly in its habit of growth than the rhododendron, and generally speaking it is the better way to let it grow in its own way. Planted in proper soil below the level, (they should never be planted above the level,) they will seldom require any artificial watering. As a rule, the removal of dead blossoms is about all the attention rhododendrons and azalias require. We are supposing them to be planted in good beds of peat-loam, and well decomposed cow dung, mixed up well together.

CHRYSANTHEMUMS

Will be benefitted by frequent applications of liquid manure, and sprinkling overhead in the evening. Now is a good time to strike cuttings of the *pompones* to flower in the greenhouse during the fall.

Cineraria, calularia, primula sinensis, mimulus, mignonette, &c., may now be sown in a light rich compost, and placed in a moist, cool, shady place, which will bring them out much better than a more exposed place. When the plants are well up, they must then have more light and air.

FLOWER BEDS.

Stir the surface soil before the plants meet, and all that need pegging down should be kept regular betimes, and especial care taken to get plenty of shoots on the north side—the south side is pretty sure to take care of itself.

WINTER FLOWERS

Must be cared for now. Propagate *euphorbia splendens* and *jacquiniaflora*, *poinsettia pulcherrima*, *salvia splendens*, *calliarpia purpurea*, &c. Put all potted shrubs for winter blooming, in a cool, moist bottom, until the end of August, when they may be removed to a more sunny position.

•••
Foot Rot in Sheep—Cure.

There is, we believe, very little of the disease called "foot-rot" in this and the more Southern States; but, as many sheep are being brought into the State from sections where it is very prevalent, it is well to put on record, what, we have the high authority of Mr. John Johnston, of Geneva, *forsaying*, is a sure remedy. He says there are few flocks of sheep in Western New York that are free from the disease, and that they will never fatten if "foot-rot" is among them:

NEAR GENEVA, April 6, 1866.

Messrs. Tuckers:—I notice in your issue of April 5, page 224, a Subscriber inquires about curing foot-rot in sheep. I have often given, through the agricultural papers, a never-failing cure, if properly applied—that is, a salve made of finely pulverized blue vitriol, together with thorough paring of the diseased feet. Rub on the salve, and in about four days every sheep will walk sound if the paring has been thorough. The lame must be separated from the sound, *but the sound ones must have the salve rubbed in between the hoofs also, else there will be no cure.* Those that were lame must be dressed again in about four days, examining closely that no hoof has been left on with a sore under it. The sound ones must have salve thoroughly rubbed in again in about a week. Let the lame ones, or those that were lame, be dressed three or four times as I have directed, and the sound ones at least three times, and I can warrant a cure. I fooled away my time for two years, when I kept about 1,000 sheep, in dressing only the lame ones, some twenty-six years ago, and would never have cured them, had not the thought struck me that

"an ounce of prevention is better than a pound of cure." I could produce many witnesses that, in the way I mention, I made a thorough cure.

Now every man can cure his sheep in the same way, if he will only try and persevere. It appears to me there are but few flocks of Merino sheep in Western New York but what have foot-rot. It is almost impossible to get one hundred wethers to fatten but what have it. When I get such, I give them three or four thorough dressings, and I see no more of it; and I dress the lame every three days, the two first times, and the sound ones about a week apart as above described.

Sheep will never fatten if foot-rot is among them; you may as well think of fattening a sick horse or cow. I have two neighbors who have foot-rot badly, and who have gone on dressing the lame ones only for a year or more. I gave one of them a talking to, the other day, that he appears to take heed to, and seems to go at it as if he would do something. He says he has lost five hundred dollars by the disease this winter. I told him if he did as I directed, every sheep would walk without being lame in four days, but to go on and dress as often as I told him, and perhaps more, and if he thought he could not do as I directed, I would come and stand or sit by him until I saw he was master of it—and now I expect he will make a cure.

Sheep ought to be thoroughly cured before turned to their summer pasture, and not make it foul with diseased feet, else it may take more dressings than I state to make a cure. It is better to give one or two more than enough, than to give too few. A man can dress about fifty in a day at the first dressing, and he may do nearly double that number the other dressings. But don't hurry; do your work right, and you will find it most profitable in the end.

JOHN JOHNSTON.

•••
VANILLA.—A successful effort, it is said, has been made to raise this plant in France. The experiment was made in the public gardens of the St. Bruno, and the quality is affirmed to be equal to the best imported from the West Indies. The seed of the vanilla is remarkable for its fragrant odor, and yields an oil which is much used as a flavor. It is also employed in medicine in place of valerian, all the virtues of which it is supposed to possess, while it is at the same time far more grateful to the taste.—*Ex.*

•••
GENERALLY speaking, the smaller the quantity of fruit on a tree, the higher the flavor; therefore, thin all fruit in moderation, but avoid excess; a single gooseberry on a tree, or a single bunch of grapes on a vine—no matter how fine it may be—is a disgrace to good gardening.—*Ex.*

Scalded Meal.

The nutriment afforded to animals by seeds and roots, depends upon the rupture of all the globules which constitute their meal and flour. These globules vary in different roots, tubers and seeds. Those of potato starch, for instance, are usually from fifteen ten-thousandths to the four thousandth part of an inch; those of wheat rarely exceed the two-thousandth part of an inch, and so on. From experiments made on these globules by M. Raspail, the author of "Organic Chemistry," and M. Biot, of the French Academy of Sciences, the following conclusions have been drawn:

1. That the globules constituting meal, flour, and starch, whether contained in grain or roots, are incapable of affording any nourishment as animal food, until they are broken.
2. That no mechanical method of breaking or grinding is more than partly efficient.
3. That the most efficient means of breaking the globules is by heat, by fermentation, or by the chemical agency of acids or alkalies.
4. That the dextrine, which is the kernel as it were, of each globule, is alone soluble, and therefore alone nutritive.
5. That the shells of the globules, when reduced to fragments by mechanism or heat, are therefore not nutritive.
6. That though the fragments of these shells are not nutritive, they are indispensable to digestion, either from their distending the stomach, or from some other cause not understood; it having been found by experiment that concentrated nourishment, such as sugar or essence of beef, cannot long sustain life without some mixture of coarser or less nutritive food.
7. That the economical preparation of all food containing globules or fecula, consists in perfectly breaking the shells, and rendering the dextrine contained in them soluble and digestible; while the fragments of the shells are at the same time rendered more bulky, so as the more readily to fill the stomach.—*Co. Gent.*

Visiting Farmers.

In ancient times the English law required a young man, on completion of his apprenticeship, to travel over the country a certain number of years, working at his trade, before he could be licensed to make a permanent beginning for himself. The object was to compel him to become familiar with the different modes in which other craftsmen conduct the business he had learned, so that by knowing all, he might become a perfect workman.

Travelling from one farm to another, to learn

what was going on upon each, how this or that process was conducted, what machines were successful, which were failures, what was the most profitable fruit crop, and how best to produce it, who had the most successful garden, and how it was managed, with the long catalogue of items on kindred topics—would be a mere repetition of the English obligation to become perfect in the farmer's calling.

There are times throughout the year when most men can indulge in this useful recreation, and there are those who systematically devote to it a portion of every season. I have indulged in it myself, and have rarely gone any where without learning something that was new to me, and many times useful.

On these brief perambulations I have uniformly found the latch-string of the door within sight and reach. Going in unheralded, and even anonymously, I have never been received disconcertingly. The house-dog may have been snappish, but the proprietor has been all suavity. —*Author of "Ten Acres Enough," in Horticulturist.*

Care of Cows.

In the discussions at the Annual Fair of the N. York State Agricultural Society, Geo. A. Moore gives his method of caring for his cows as follows:

My best cows do not go dry over six to eight weeks. The best cow I have, was milked at night and had a calf by her side the next morning. Cows must be sheltered, groomed, well fed and cared for. A cow should go in the barn when the first cold weather comes on in the autumn and stay there till it is over in the spring. Of course the stables should be well ventilated. I have found that cows kept in the barn through the winter, do just as well as those which are let out. Air, light, good water and good food are essential. With these provisions, cows are kept in good health, there are no miscarriages, and the general effect upon the health and usefulness of the animal is good. Cows "come in" with us when 24 months old, and we breed and milk them right along. Three years ago I picked the poorest and oldest cows from my herd, kept them housed from Christmas till March, loosed them from the ties and turned them out, and they played like calves. They gave more milk and did better the following season than they did the year before. I have kept cows in stanchions from November to May, caring for and grooming them well, and they bred better, there were fewer losses, and they were healthier, and did better the succeeding season, than if they had been left out, or allowed to run out in the usual way. I prefer to tie cows for winter feeding, but use stanchions in my milking stables.

Surface Manuring.

We give below an excellent "summary of the principal facts and reasons in favor of Surface Manuring," by a correspondent of the *Country Gentleman*. The writer seems to have examined with care the leading agricultural papers, of the more Northern states at least, during a number of years past, in order to put the subject in its true aspect.

In giving his history of the progress of opinion on the subject, he says that 'Mr. John Johnston was the first to come out, and openly advocate in print, the practice of surface manuring.' While we recognize fully, Mr. Johnston's claims, as one of the most independent and intelligent of agricultural writers, he is not entitled, we think, to the credit of having first openly advocated in print this method of manuring. Long before Mr. J. wrote at all on the subject of Agriculture, we presume, Mr. Botts, then editor of the *Southern Planter*, Mr. Garnett, of Virginia, one of the leading writers of his time, and, we believe, Mr. Edmund Ruffin, commended this method of manuring.

Nevertheless, the general opinion had not advanced. No set of men, say what they will, are more under the influence of theories than practical farmers, and especially of a theory that appeals so directly to the senses, as does this one of manures. It was claimed, for a long time, by chemists, that the waste of strength was plainly indicated by the odors arising on any exposure of the manure, and that the loss was proportioned to the length of time it might remain uncovered on the surface. There were certainly very few writers—we do not think there was one agricultural editor—who controverted this teaching, when, in 1856, we distinctly and pointedly took ground against it, in a leading editorial of the *American Farmer*. In this article we said, "we know that men of science will shake their heads at the wanton waste of ammonia, but practical men should stand by their facts." Mr. Mapes, of the *Working Farmer*, said at that time, "Those who imagine they find good results from spreading manure on the surface, and leaving it for days, weeks, or months, before it is ploughed under, mistake the action of the litter, or longer portions of the manure, as a mulch, for the action of the manure on the soil." In reply we said, "We so far differ from this, and kindred opinions on the subject, that we think manuring on the surface, for ninety-nine farmers in a hundred, the best general method of application."

Our editorial was copied into the London *Farmers' Magazine*, and it is a coincidence, that

during the following summer Prof. Voeleker made, at Cirencester, the famous experiments which have changed the current of opinion on the chemical question involved.

We do not claim that we were the first to bring the subject into notice, but that the *Farmer* pressed it so pointedly and urgently, as to fix the attention of intelligent observers, and writers for the Agricultural press, and that within the ten years past it has, on this account, gained more upon the good opinion of the Agricultural community than in half a century preceding.

It is proper to bear in mind in this connection, that it was in the face of false, or rather, perhaps, misapplied teachings of science, that intelligent observation furnished facts which could not be gainsaid. The experience of practical men was appealed to, to uphold the practice of manuring on the surface, while the teacher of science still maintained the inevitable loss of the volatile ammonia. Finally, however, it was ascertained that the loss of ammonia was not to be estimated by the quantity of wasting odors the manure evolved. Ammonia never failed, it is true, to give a sensible indication of its presence, but other gases, of no value to the crops, magnified the appearance of the waste. It now appeared, that only in so far as the manure had rotted, was ammonia found at all. The nitrogen of the un-rotted manure was not liable to waste from evaporation. Thrown upon the surface, there was no wasteful exhalation, even under the hottest sun, except of a very small amount of ammonia.

The summary given below is an interesting one, and we commend it to the notice of our readers:

SURFACE MANURING. *A summary of the Principal Facts and Reasons in Favor of Surface Manuring.*

Speaking of his examination of the history of the matter, the writer in the *Country Gentleman* says: I find that Mr. John Johnston "was the first to come out and openly advocate, in print, the practice of surface manuring; that Mr. J. and many others have practiced this course from twenty to thirty years; that it was adopted after repeated trials and experiments in manuring, in the different ways usually practiced; that Mr. J. and others found that one load spread on a grass or clover sod, early in the fall, and plowed under in the spring for corn, did more good, and gave a better profit, than two loads supplied in any other way; that the course usually taken is to pile the manure in the spring, let it ferment and rot, and in the fall draw and spread it on a grass or clover sod, to be plowed under the next spring

for corn, though on many grass farms it is applied in the fall to meadows, while it is sometimes put on land prepared for winter wheat, and said to be harrowed in, though probably only partly covered, just before sowing; that it is usually found to do best when applied rather early in the fall, so the grass and clover can grow up and cover and protect it; this also gives time for the soluble portions, which constitute the principal value of rotted manure, to be carried into the soil by the rains. It also makes a great deal better sod, and growth of grass and clover, to plow under in the spring, which is a great benefit to the succeeding crop of corn.

Surface manuring appears to answer much the same purpose as liquid manuring. Nearly all of the valuable portions of fermented and rotted manure, being soluble, are washed out, taken into, and completely diffused through the surface soil by the fall rains, so as to be in the best possible condition to be used by the growing plant. At the same time there can be but very little, if any loss, by the strength of the manure washing away, or being carried too deep into the soil," for, as Dr. Cameron says, "by a beautiful provision of nature—the absorptive power of soils—they will be retained until required to nourish the plants." Liebeg also states that if "water holding in solution ammonia, potash, phosphoric and silicic acids, be brought in contact with the soil, these substances disappear almost immediately from the solution, the soil withdrawing them from the water." It also appears that there is no other way in which the fertilizing properties of manure can be so well worked into and diffused through the surface soil, just in the position and condition in which they are needed by the growing plant, as by liquid manuring, or applying the manure to the surface so that the rains can dissolve and carry them into the soil. It also appears that when manure is plowed into the soil, there is comparatively little chance for it to be thus prepared and brought to the plant, but that the roots have to find and use it as they best can. Hence it will be seen that, when the manure is plowed under, the roots of plants cannot as soon nor as thoroughly receive the benefit of it, as when diffused through the surface soil by the rains; while, being covered with several inches—often six to eight—of soil, there is comparatively little chance for rains to dissolve, bring it to, and diffuse it through the surface soil, where it is mostly needed. But this is but one of the great benefits that may be realized by surface manuring.

Another great advantage is, that by piling, fermenting, and rotting manure, it is brought

into a much more available condition for the immediate benefit of growing plants. Now it is well known that the principal value of barn-yard manure consists in the amount of available ammonia and soluble mineral substances it contains, while it is shown by Dr. Voelcker's investigations that "perfectly fresh barn-yard manure contains but a small proportion of free ammonia, and but a small proportion of soluble matters, whether organic or mineral—that, comparatively speaking, but little nitrogen, and of course but little ammonia, exists in fresh dung in a state in which it can be assimilated by the growing plants"—that "most of the nitrogen is gradually liberated as the fermentation of the dung progresses—it being found that there is a regular increase of soluble organic matters, including nitrogen, which keeps pace with the progress of fermentation." It also appears that "in fresh manures (with abundant litter,) the larger part of the insoluble organic matter consists of straw in an almost entirely undecomposed state. In rotting manure, the straw is converted into humus—(humic and ulmic acids, humine and ulmine)—the compounds of which, with potash, soda and ammonia, are soluble, and of a dark brown color. The humus mostly fixes—(forms non-volatile compounds with)—the ammonia that results from the decay of nitrogenous matters." It also appears that the most useful mineral matters contained in manures are also brought into a more soluble and available condition for the use of growing plants.

True, it has been objected that in rotting barn-yard manure there may be a considerable loss of ammonia which is set free by the fermentation in the heap; but it is shown that this is not the case. Dr. Voelcker shows that "in the interior and heated portions of manure, ammonia is given off, but on passing into the external and cold layers, the free ammonia is absorbed and retained. During the fermentation of dung, ulmic, humic, and other organic acids are formed, which fix the ammonia generated in the decomposition of the nitrogenized constituents." It is also stated by Dr. Cameron that "it is an error to suppose that the manure heap loses a sensible proportion of its important constituents by exposure to the air; on the contrary, if it be in a compost state, the only ingredients which evaporate from it, are water, and an inconsiderable quantity of carbonic acid; hardly a trace of ammonia escapes. During the fermentation of manure, its nitrogen, (for there is no ammonia in fresh natural manure,) is converted slowly into ammonia; at the same time other constituents of the dung—carbon, hydrogen, &c., are converted

into certain acids which combine with and fix the ammonia."

Should the plain practical farmer want any further proof that there is no loss by fermentation of any of the valuable constituents—what he considers the strength of the manure—the vastly greater effect of, and benefits received from rotted manure, ought to be more than enough for his satisfaction.

But it is true, that while there is very little loss from evaporation or exhalation of ammonia, or other valuable volatile substances from the manure heap, there may be some loss from washing by heavy rains; and there seems to be the more reason for this objection, as it is shown that fermentation renders the most valuable constituents of manure soluble, and hence liable to be washed away. But it is shown in practice that this may be mostly prevented by making the piles large and high, the sides square or perpendicular, the top dishing, so they will hold and take up all the water that passes on to them, and making them in places where no running water can reach the sides or bottom, thus giving very little chance for the rains to wash them away.

It is also found that when manure is well spread that all fermentation is at an end; so there is no setting free of ammonia or other valuable matters, the most of the foul odors arising from the manure when spread, as well as in the pile, being due to the escape of carbonic acid, carburetted hydrogen, and other foul gases, that are not of much value in manure—while in well fermented and rotted manure, the most important and valuable ingredients, instead of being in a condition to be dried up and carried off by the sun and air, are in precisely the best possible condition to be dissolved and carried into the soil by the fall rains. So that if manure is finely spread early in the fall, these ingredients will be washed into and well diffused through the soil before winter, where, according to Liebig, Voelcker and Cameron, they will be retained until wanted by the growing plants.

It is also claimed that manure applied to the surface is valuable as a mulch—that when spread early in the fall so as to give the clover and grass a good start, and they are not fed down too close, it is found that the coat of manure and growth of grass is a considerable benefit as a mulch and protection of the land, and roots of the grass. It is also found that when manure is applied to wheat, whether put on before sowing and worked into the surface, or finely spread afterwards, that it answers the same purpose, giving the plant a better and stronger growth and making it less liable to freeze out, while the

large growth and coat of manure is a protection to the soil and roots of the wheat—while in regard to grass that has not been fed down in the fall, it is found to start earlier, so as to give quite a growth if not fed off, as it never should be, in the spring, to turn under for corn. This new growth, by making the sod green and succulent, and starting it to rotting immediately, is a great help to the corn, so that in reality surface manuring in the fall has the threefold effect of enriching the land, mulching and protecting the soil and wheat and clover and grass roots, and producing something of a crop for green manuring.

There is another important point in the consideration of this subject, that it is very probable the great mass of American farmers, like the writer, have never given much attention, which has been somewhat strongly brought to mind while investigating this subject. This is the very general practice in England of spreading manure on clover stubbles after haying, to be plowed under in the fall for wheat, haying being rather earlier and wheat seeding considerably later there than here. Mr. Luther H. Tucker, in referring to this practice states that "there are many in England who constantly practice this way to advantage, and consider that in no other, can greater benefit be obtained. It helps to some extent to bring forward the 'seeds,' (of clover, &c.,) so that when they are ready to plow a few months later, there is a closer and thicker sward to turn over, which will, of course, yield the greater nourishment it has thus been accumulating, to the coming crop of grain." There is also much other testimony to the same effect, it being shown that English farmers when questioned on this point, state that after trying various other ways of applying manure, it was found that in no other way could they apply it to so good advantage, or with as much benefit to their wheat. Yet, in following this course, the manure has to be exposed, as it is finely spread on the surface, to the sun and air during the warmest season of the year. Thus showing that with well fermented and rotted manure, which is always used, there can be but very little if any loss by the escape of ammonia or drying of the manure.

There is another way of surface manuring, extensively practiced in England, which should not be forgotten,—that is, by feeding off turnips, on the land where they are grown, with sheep. This is a favorite practice with English farmers, who claim that it is one of the best ways they have for manuring and enriching their land. The usual course is to put the sheep on to the

turnips in October, and keep them folded on a small piece until it is eaten off, and then move them on to another, generally following this course until it is time to clear the land to be plowed for barley in the spring. To make the sheep gain faster, and the manure richer, but mainly the latter, they are often fed oilcake, and sometimes clover hay, but both fed in the fold on the turnip field; so the manure is left as it is dropped on the land by the sheep, and thus it remains all winter. So that instead of apprehending any loss by the washing away of the manure, it is generally if not universally considered and conceded to be the best way the turnip crop can be fed to sheep, to manure and enrich the land. Clover is also sometimes fed off in this way, oilcake being also fed, mainly to make richer manure.

Now the point of most importance to the American farmer, is that in neither of these ways, in which the principal part of the manure made by English farmers is applied to the land—whether exposed to a summer sun or winter washing, is there found to be any serious loss of the fertilizing properties or matters of manure—thus furnishing the best possible proof of the correctness of the conclusions of some of the best agricultural chemists, that when manure is spread on the land, there can be but little, if any, loss by evaporation or escape of volatile substances, as there is no fermentation; nor much loss by washing, as the soil immediately absorbs all important matters held in solution by the water passing over or through it. And this point is the more noteworthy, because large quantities of oilcake and grain are fed with the especial view of making rich manure, such as there would certainly be a loss on, if on any—while not only are English farmers working hard and looking sharp to find every chance for making and saving manure, but some of the best scientific men are giving their attention to the same subject.

There is one other point that has been dwelt on to some extent, and that is, that surface manuring is nature's mode—that by the decay of leaves and the various other vegetable substances deposited on the surface, the soil has been gradually growing richer for an indefinite period. In proof, the prairies are referred to as notable instances. It is also shown that the valleys of rivers are kept very rich, by the deposit of enriching substances by overflowing water. The valley of the Nile, which has been under constant cultivation without any other manure, for thousands of years, is referred to as a prominent instance of this kind. The Ganges and other rivers, are also referred to as examples of this kind of manuring.

Orleans Co., N. Y.

F.

Flax Culture.

We remember a time when Flax growing was common in Maryland. It was before the days of cheap cotton, when it was thought good economy, on large farms, to grow and to manufacture, as far as possible, all that was necessary for home consumption. There was a regular allotment of ground for the small crop of flax; which was broken on the flax-break, hackled, spun, and woven at home, for the use of the negroes. Of late years, attention has been directed to its culture again, owing to the high price of cotton. It has one advantage over that crop—that it needs little of the laborious field culture which it demands; being sown broadcast, and needing no further care till harvest. The following, from a German flax-grower, we take from *Country Gentleman*:

Meers. Editors: — In No. 683 of the *Cult. & Co. Gent.*, I find an article on flax culture, written by Mr. W. H. White, of South Windsor, Conn., in which the cultivation of flax is highly recommended to the attention of American farmers. Some assertions in said article I would heartily subscribe to, but others I consider erroneous, and, as I have been raised and am living in a country where, for centuries, flax culture has been an important and lucrative branch of agriculture, and am myself engaged in raising this product of the farm, perhaps you will grant to my remarks on this subject a page of your interesting paper.

First, let me speak of the proper place of flax in the rotation of crops. Your correspondent, in No. 683, says: "The soil should have been previously made rich by a *high manuring*." We never manure for flax. The fibre is injured by manuring; fresh manure is neither liked nor required by the flax plant. It is one of the greatest advantages for the farmers that the flax plant will thrive better without manure than with it, and that even the crop following flax on the same field requires less manure than if the same had been sown a year sooner in the place of the flax. For instance: Oats is here always sown at the end of the rotation, and after the oats are removed, the field has to be manured for the next crop. Now, after such oats, we sow flax without manure, and, after the flax, rye or wheat, with but a half allowance of manure, and raise a sure crop, and, after such winter grain, we have an excellent chance for red clover. Clover, indeed, is never better than in the second year after flax. As we raise no Indian corn, our rotation, being confined to small grain, must of course vary from yours. But making this allowance, the following rotation is an excellent one for our regions, on soil adapted to wheat and clover:

1st year—Beans; manured.
 2d—Wheat.
 3d—Oats.
 4th—Flax.
 5th—Rye or Wheat, with clover sown, is half
 a manuring.
 6th—Clover.
 7th—Wheat—half a manuring.
 8th—Oats.

Here you have the proper plan for flax in a rotation, as proved by experience, as well as from scientific reasons. In the above rotation every crop has a fair chance, and the periods of manuring are well distributed. Take out the flax, and you can put in its place nothing but fallowing, thus losing a year's crop and having no better results thereafter. However, if part of the land has become weedy or foul from unfavorable weather, or other causes, such part then receives the benefit of a fallowing, instead of sowing it with flax.

Of course, the land, to produce flax in the above order, must be in a high state of cultivation. It will not do to sow flax on worn-out land. But good farming, with a rational rotation of crops, never takes the least strength out of the land. The reason why flax is not benefitted by fresh manuring, is partly this: The fibre requires an early growth; all extremes, every excess of heat or cold, drouth or moisture, are injurious; every part of the plant, as much as possible, must grow under the same influences. Therefore flax likes so much the sea coast and hates the inland, where heat and cold, wet and dry spells, will come on abruptly and in excessive manner. Fresh manure also disturbs such equal growth; it works different in dry or wet spells of the season, different in cold or warm weather. It is a well-known fact that barley from fresh manured land, (especially sheep manure,) is not good for the brewer; that seed wheat must not be taken from fresh manured land, nor after clover; and in similar manner flax is injured by fresh manuring.

Your correspondent, in No. 683, advises further, to sow the flax-seed on *fresh-plowed land*. We never do so here—at least no experienced farmer does so in those sections of our country, where good flax is raised. We prefer an old furrow for two reasons. 1st. Because old-plowed ground keeps moist longer, while fresh-plowed land will in a dry spell soon suffer from drouth. 2d. Because all land, with the exception of sandy soils, needs exposure to the influences of the atmosphere for four or five weeks before the seed can be sown. All loamy soils—which are those best adapted to flax culture—are highly benefitted by such exposure, and we do

not throw the seed on until the plowed ground has gone through such a state of fermentation, which makes it more mellow, softer for the hand, more elastic for the foot, darker of color, richer of nutritious substances. For these two reasons, our mode of preparing the land for a flax crop is as follows: Early in the fall the field is plowed shallow; it is important to plow immediately after the crop has been removed. Three or four weeks thereafter, when the field begins to cover itself with weeds, it is thoroughly harrowed and plowed shallow again. The second plowing is not necessary where the field remains clear of weeds. Very early in the spring, as soon as the land has sufficiently dried off, a deeper furrow (the last before seeding) is given. This last plowing can also be done in the fall, and frequently such plowing before winter gives better results than if done early in the spring.

The land now is left rough. The harrow is not applied until a growth of plants, (weeds,) begins to spring up. Then, however, the field receives a thorough harrowing, aided by rolling. The harrow not only passes twice over the land, as your correspondent thinks necessary, but frequently four or five times; the harrowing is continued until the whole field is like a garden bed, perfectly pulverized, and *all hollows, every trace of the furrows destroyed*. A sharp stick thrust into the ground must everywhere meet a solid mass; the heel must not sink in deeply. This is the work assigned to the harrow; I know that in America much less attention is given to harrowing than here. The field now is again left; the seed of weeds still left in the surface will now germinate, and two weeks after this, such new crop of weeds is again destroyed by a thorough harrowing. Then after the next shower of rain the flax seed is sown, covered by a light harrowing, and the ground rolled, for which purpose a ringed roller is preferred. The best sowing time here is between the 20th and 25th of May; in America perhaps earlier sowing may be preferable.

The amount of seed required, where fine fibre is desired, is 180 Prussian pounds to the acre, which is equal to about 200 American pounds, or 3½ bushels. The cost of seed per acre thus averages 18 Prussian thalers, or \$13 in gold. We are obliged to buy our seed either from Russia or Zealand, and can use home-raised seed only once, so that every other year we have to buy imported seed.

We have an excellent flax market here, as there are large spinning factories, and alone for those in the province of Westfalia nearly a million and a half worth of flax has to be bought abroad, mostly in Russia.

Our object, as farmers, is to get rid of the flax at as early a period as possible, and it is of great advantage that, for the last five years, we can sell the flax in its raw state. The farmer now merely pulls up the flax, rots and dries it, and then finds ready sale for the straw. For this state, the price has been 28 pounds of straw-flax for one thaler, or about 2½ cents, gold, per pound, these two years; at present it sells even higher, to wit, 26 pounds for one thaler. One acre will, on an average, produce from 2,500 to 3,000 German pounds of dry flax straw—though, in 1863, I harvested myself from one acre 4,800 pounds. At 3,000 pounds, and a price of 28 pounds, as above stated, the fibre is worth 107 Prussian thalers per acre, while the whole cost of raising is about 30 thalers, including the seed; so the net profits are about \$48, gold, per acre. These figures are not imaginary, but, on numerous farms, such profits have been made for many years here.

Flax raising, however, is a trade, and wants to be learned. I cannot here enter into its details, but your correspondent, in No. 683, commits two farther mistakes, which I will mention, and hope he will pardon me for this, as my sole object is to promote exact knowledge of an important branch of agriculture.

1st. The steeping of the fibre in water is really a "rotting;" its object is not only to soften the filaments. The flax in the water must ferment, and this fermentation must have its full process. The end of the same is indicated by a sinking of the steeped flax; as soon as the fermentation is over, the immersed bundles will sink several inches in the water, and then it is time to take them out of the water. Fermentation being the object, warm water will attain the same much quicker than cold water; in fact, the water must have a certain temperature, and also a quick-running stream is unfit for this purpose.

2d. The spinning factories cannot buy flax in its green state, nor even in its raw state, but only after the rotting and after the breaking of the woody rot which surrounds the fibre. Therefore there must be men that make a business of buying and preparing the flax for the spinning factories, or else the farmer has to take care of these operations himself. Green flax can bear neither transportation to any distance nor delay; and, even after the rotting and drying, the flax is too bulky, and, in consequence, requires too much cost for transportation, as well as storage, to be saleable to the factories in this state; besides, it cannot be estimated right in this state.

Finally, I consider flax a highly recommendable crop; but if your correspondent, in No. 683, says that it requires "less skill and attention"

than any other crop, I should, on the contrary, say, "it requires more skill and attention than almost any other crop of the farm." Besides, the farmer must be sure of a market.

WM. LARR.

Munster, Prussia, March 8, 1866.

Cruelty to Animals.

John T. Hoffman, Henry Grinnell, J. J. Astor, and other prominent citizens of New York, have got from the Legislature of that State an act of incorporation under the title: "The American Society for the Prevention of Cruelty to Animals."

In accordance with the general idea of the Association, several laws have been passed, making provision for the more effectual suppression of cruelty to dumb beasts. The following are some of the provisions of the law:

Transportation of Animals by Railroads.—No Railroad Company in this State, in the carrying and transportation of cattle, sheep, or swine, shall confine the same in cars for a longer period than *twenty-four consecutive hours*, unless delayed by storms, or other causes, without unloading for rest, water and feeding, for at least ten consecutive hours; and shall not receive nor re-load cattle, sheep, or swine, from other railroads, which have not been rested at least ten consecutive hours immediately preceding such loading and re-loading, and have been watered and fed within said ten hours.

Cruel Treatment of Animals.—Every person who shall, by his act or neglect, maliciously kill, maim, wound, injure, torture, or cruelly treat, any horse, mule, ox, cattle, sheep, or other animal, belonging to himself or another, shall, upon conviction, be adjudged guilty of a misdemeanor; and every owner, driver, or possessor of an old, maimed, diseased horse, or mule, turned loose, or left disabled in any street, lane, or place, in any city in the State, who shall allow such horse, or mule, to lie in any street, lane, or public place, for more than three hours after knowing of such disability, on conviction, shall be adjudged guilty of a misdemeanor.

Among other items of cruelty to animals, prohibited and punishable by the same law, are "premeditated fights between persons with their fists," fights between game birds, or game cocks, or dogs, or bulls, or bears, or between dogs and rats, or dogs and badgers, &c.

REMEDY FOR THE SOOUR IN LAMBS.—Take the seed of the common dock, make a strong decoction, sweeten with loaf sugar, add half a tea-spoonful cayenne pepper to the quart. Give to each lamb a wine-glassful three or four times a day until a cure is effected.

Reconstruction.

If the politicians would allow the farmers of the land to take charge of the work of reconstruction, we might hope for a speedy return to peace and prosperity. They would bring to bear upon the subject a quiet, practical, common sense treatment, before which, all the difficulties conjured up by the former would speedily vanish.

The idea is suggested as we read the letters which we here extract from the *Southern Cultivator*, and admire the cheerful, hearty submission to circumstances, and sound, good sense they evince. One is from a Georgia man, who would be classed, we suppose, with what the vulgar educated call "poor whites;" the other from an educated gentleman, a native of Maryland, who having farmed before the war in Illinois, had returned to the South where he acted as a Confederate surgeon. He now makes the field of his operations, an Alabama plantation :

A VETERAN'S EXPERIENCE—GOOD ADVICE.—John Farrar, of Georgia, says: I have concluded to inform the readers of the *Cultivator*, how I am getting along in the management of plantation affairs, and how I manage the freedmen and women of which I have the control. In the first place let me say that I am in my 78th year, was raised to hard work, my mother and father had seven hearty boys, each of whom lived to weigh more than 200 pounds, I being the eldest had the brunt of work to bear, consequently, but little schooling fell to my share.

I am now attending to the business part of a farm for another man, the late war having left me with but little in this troublesome world. I have 21 hands all told, viz.: 9 men, 8 women, and the rest boys. I have had more than 4,000 panels of fence made or reset, about 20 acres cleared, I am planting about 190 acres in corn, about 180 in cotton, say 25 in sorgo or syrup corn, as the negroes here call it, shall put 5 acres in sweet potatoes, have 1 in Irish potatoes, have 10 good plow stocks. My hands are easy controlled and work freely, I encourage them to do so, I am nearly all my day time with them, tell them that if they will work, so as to deserve it, it affords me pleasure to give them a holiday. They have pushed ahead to my satisfaction with but little exception so that I have given them one-half of more than half the Saturdays of this year so far. Some old fogey may think I am fooled in this, to think that a half day with twenty hands makes over a week for one, but I know that I gain by it, I am a judge of a day or a week's work. I get up at three o'clock, make my own fire having the wood at hand, sit by it and think over my day's business, come to my

conclusions, ring the bell twenty minutes before day for all hands to rise, the women go to cooking for breakfast and dinner; get off to work before sunrise; every set of hands have their work for the day told them. I have quite early breakfast, saddle and mount my little mule and I am with the hands or going from one set to another until the middle of the day, come home, get dinner and am off again frequently in less than one hour. The hands have good pay for the year, they board and clothe themselves, everything they need is furnished them on the place at a less price than the nearest market; they seem to enjoy themselves highly, it does them good to think what they want their credit is good for. I treat them kindly, talk with them freely on matters pertaining to their interest, wink at small errors, but reprove any neglect on their part. If things go exceedingly wrong with any one of them, come down as it were like a clap of thunder, whatever the difficulty may be settle it right then, and never hint the thing again. I hardly ever enjoyed myself more than I do when going from one set of hands to another, and find all things going to my satisfaction.

Dr. H. Hinkley, of Alabama, says:

Though fond of my profession, yet I am more fond of agriculture, and see a vast mine open in the prosecution of Southern agriculture, to willing hands and stout hearts. I have "pitched in" to hard work, and intend to "fun the concern" as I did in Illinois, by being my own overseer, and doing whatever my hands find to do. If every negro were in Guinea, Southerners would be better off; but as they are not, we must use them, and teach them how they should work.

Having perfect confidence in my ability to make free niggers do as much or more than slaves did, I leased a prairie farm in Alabama for several years, and on the first day of January (ult.) my contract was signed, and my hands at work—before my neighbors. I send copy of my contract, which is simple, and embraces all that I deem requisite. I work about twenty-five hands, and they are good ones. They rise before day, and are at work till dark. They fiddle and dance at night, and get their lessons in the spelling book; and they grin with delight at the beautiful bright steel mold board, clipper plows, which I have received from the North; and do with three furrows what the old wooden mold board and slaves did with four—or rather they more than do it—as they not only list a bed with three furrows, but they bring up soil that never saw daylight before. My idea of our native implements is not favorable—especially after farm-

ing in Illinois four years, where the most beautiful, useful and excellent labor-saving agricultural implements in the world are made.

My desire is to help the agriculture of my native South as much as possible; and help make it what its destiny now points—a white man's country. We want *all* the good white men we can get.

We want smaller farms, more villages, less pride, more industry, fewer stores and clerks, and more laborers. We need not be any less gentlemen, any less hospitable, intelligent, refined or chivalrous. The almighty dollar is a stigma against the Yankees; but I think the everlasting nigger and cotton was just as engrossing an idea with us. Agriculture is a peaceful occupation; it leads to wealth now just as certain as any other business or pursuit. Energetic men, who know what negroes are and were, can use freedmen's labor and get rich. There is a way to work these people which is easily acquired, and it consists in decision and kindness. Treat them well, but make them all toe the mark, and never look over their faults, but correct them. Strict obedience to all orders is enforced on ship-board at sea. Were it not so, many would be the losses sustained by our marine—which attention to duty prevents. On a farm or plantation, all orders should be as strictly followed, and losses will be rare.

There are a great many bad negroes in the South—lazy, worthless wretches—but there are also many good ones. The bad ones will all die, from causes following their own worthlessness. The goods one will improve, and, by the force of circumstances, even these will become scarce. White labor will gradually take their place, but it must be on smaller farms. Scientific agriculture will gradually come into our midst, and the use of labor-saving machines make some amends for the paucity of labor.

•••••
LICE ON CATTLE.—A correspondent of the *American Agriculturalist* says that “knowing larkspur seed would destroy lice on human beings, he collected a quart of seed, ground it fine, soaked it a week in one gallon of strong vinegar, and then applied it with a sponge to all parts of the animals; has never seen louse or nit since.” On the same subject, T. F. Haynes, Hartford co., Conn., writes to the *Agriculturalist*: “I keep lice off my cattle by keeping sulphur and salt in winter where they can lick it when they choose; my cattle have had none since I practiced this.”

•••••
SHENGEL mentions a rose tree, still living, which is upwards of one thousand years old.

Top-Dressing Lawns and Meadows.

Top-dressing lawns and meadows in spring, seems still to be in vogue, when, to any thinking mind, it must be obvious, that they lose three parts of the strength of it by strong sun and March winds. When top-dressing is to be done, fall is the proper time to do it. At that time all the strength of the manure (liquid) is washed into the ground. It also serves as a protection to the grass, and the sun will not burn it up, as is the case in spring; but in either case it is generally a waste of manure, in the manner that it is applied. When top-dressing is necessary, it should be done from the compost heap. This compost heap retains all the ammonia from the decomposed vegetable matter, and dung fresh from the stables. All this ammonia evaporates. When we use manure to plow in, we only spread as the plow proceeds. This in a great measure saves the ammonia. Those to whom manure is an object, (it should be to all,) should sprinkle it as they make it with charcoal dust. If they have not that, use ground plaster, which will absorb all the ammonia.

Those who use manure for top-dressing, should have a tank to receive all the water closets and suds. In the spring, have a hogshead, and pump this into it, and have a box of tin, three or four feet long, and six inches wide at the end, and go over the lawns and meadows. This is much better than any barn-yard manure, and no expense. If they had to pay from two and a half to three and a half dollars a load for manure, they would adopt it; but, in nine cases out of ten, this valuable manure is allowed to run into the common sewers—in fact, it is generally only thought of as getting rid of it in the easiest way. Try half an acre with this liquid, and half an acre with stable manure, and you will find the credit side to the tank manure.

Another good top-dressing is this: Flour of bone—that is, bones ground as fine as plaster. This, on lawn, is a fine fertilizer, and bone dust in any shape is one of our best manures for grass—flour of bone for lawns, as it will not interfere with the scythe or mowing machine. I speak of it as a top-dressing for immediate effect. Coarse bones are better when you are laying down your lawns or meadows, and it will pay to use either, as they last much longer in their effect. When applied, they should be lightly harrowed in. The great drawback I foresee to this flour of bone is, that it is so easily adulterated, which will be done, the temptation being so strong. There is no fertilizer that I should use so much (except guano) if it was not for that reason. To get it genuine will be the main object, and how long

that will be is a question; even what is now called fine bone dust, it is impossible to get unadulterated. For that reason I always use the coarsest that I can get, as I can then see what I get, and if I want it fine, I break it. They cannot adulterate coarse bone, and to prove it you will always have to pay more for coarse bone dust than you will for fine. I would advise some manufacturer to make *pure* flour of bone, and charge according to its worth, and not adulterate, and he will find that it will pay him, and the consumer. Genuine will pay to use; adulterated, at no price.

I have tried all the specialities of the day in shape of manure, and proved nine-tenths of them humbugs, which will be seen by referring to *Co. Gent.* Peruvian guano, when properly applied, is the only fertilizer that can be depended on. The others are generally what I term, cheat the public and enrich the manufacturers.—G. HOWATT.—*Co. Gentleman.*

Habits of Sheep.

They perseveringly follow their leader wherever he goes; but if, in case of sudden alarm, any one of the flock runs forward to escape, and thus takes the lead, the rest generally follow him, regardless of any obstruction. Of this singular disposition, Dr. Anderson once witnessed an instance in the town of Liverpool. A butcher's boy was driving about twenty fat wethers through the town; but they ran down a street through which he did not wish them to go. He observed a scavenger at work with his broom, a little way before them, and called out loudly for him to stop them. The man accordingly did what he could to turn them back, running from side to side, always opposing himself to their passage, and brandishing his broom with great dexterity; but the sheep, much agitated, pressed forward, and, at last, one of them came right up to the man, and fearing it was about to jump over his head while he was stopping, grasped the short broom-stick in both hands, and held it over his head. He stood for a few seconds in this position, when the sheep made a spring and jumped fairly over him without touching the broom. The first had no sooner cleared this impediment, than another, in such quick succession, that the man, perfectly confounded, seemed to lose all recollection, and stood in the same attitude till the whole had jumped over him, not one of them attempting to pass on either side, though the street was perfectly clear. As this took place during wet weather, the man was entirely bespattered with dirt before they had all passed; and it is impossible to conceive a more ludicrous appearance than the poor fellow made on this occasion.

Mulching Fruit and Ornamental Trees.

The past season has afforded a fine opportunity of testing the merits of the mulching of fruit and ornamental trees, and more especially of newly planted ones. Of its utility there can be no doubt. The excessive drought which prevailed during the hottest months, over nearly the whole country, proved very destructive to newly planted trees, and to many that had had the advantage of a year's setting out. Where they were not killed outright, many were badly damaged and received a back set, from which it will take them years to fully recover. On the other hand, we have seen young evergreens as flourishing and healthy during the severest prevalence of the drought as though the season had been the most favorable. The same may be said of fruit and deciduous ornamental trees.

But a mulch is not merely useful in summer. Newly planted trees, if set out in the fall, should always be mulched, and to a good thickness at that. The mulch not merely protects the young roots from the injurious effects of alternate freezing and thawing, but it encourages them to shoot regularly in the spring. Those who have young orchards will do well to profit by these suggestions. The results will amply reward the labor and expense required.—*Ex.*

Chloride of Lime for Vermin.

Some years ago I read in a French scientific periodical, that chloride of lime would rid a house of all these nuisances. I treasured up the information until opportunity offered for testing its value, and this occurred some four years since. I took an old country house infested with rats, mice and flies. I stuffed every rat and mouse-hole with the chloride. I threw it on the quarry-floors of the dairy and cellars. I kept saucers of it under the chests of drawers, or some other convenient piece of furniture; in every nursery, bed-room, or drawing-room. An ornamental glass vase held a quantity at the foot of each staircase. Stables, cow-sheds, pig-sties, all had their dose, and the result was glorious. I thoroughly routed my enemies, and if the rats, more impudent than all the rest, did make renewed attacks upon the dairy, in about twelve months, when, probably, from repeated cleansing and flushing, all traces of the chloride had vanished, a handful of fresh again routed them and left me master of my own premises. Last year was a great one for wasps; they wouldn't face the chloride; though in the dining-room, in which we had none—as its smell, to me most refreshing and wholesome, is not approved by all persons—we had a perpetual warfare. And all the comfort for eightpence.—*Cor. Lond. Builder.*

Rinderpest.

We do not realize, till we look carefully at the figures, the terrible visitation to which our English friends have been subjected, and from which we have been, as yet, so happily exempted in the fatal Rinderpest.

The return published by the Veterinary Department of the British Privy Council, for the week ending December 30th, gives an account of the loss of stock by the disease, from its commencement in June to the end of the year 1865, as reported by the local inspectors. In England 48,964 animals were attacked during the whole period, and of them 11,142 were killed as a preventive measure, 27,177 absolutely died of the disease, 3,655 recovered from the attack, and 6,990 diseased animals were remaining on Dec. 30th, whose fate will be recorded in subsequent returns.

In Wales the disease was confined to the two counties of Denbigh and Flint, and the total number attacked was 2,287; of these 93 were killed, 1,565 died, 218 recovered, and 411 remained under observation.

In Scotland 22,298 animals were attacked—2,998 of these were killed, 12,749 died, 3,172 recovered, and 6,381 cases were undetermined.

In Great Britain, therefore, the aggregate numbers stand thus: Attacked, 73,549; killed, 13,931; died, 41,491; recovered, 7,045; and 11,082 (or 15 per cent. of the attacks) are brought forward into the account for 1866.

The *Mark Lane Express* contrasts, with indignation, the trifling of the English, and the energy of the French Government, in protecting their people against the plague, and makes an exhibit of the rate of increase in England to the first of February :

"The French veterinarians came over long ago and so reported upon the nature and course of the disease in our country that the French Government acted at once, and successfully held the plague out of its empire. Our Government 'didn't know,' and yet the French Government had already examined into the whole affair as it existed in England, and thereupon did all that was required for the safety of French cattle as long since as September. Does our Government suppose that, though it must have known what to do, it will be excused because the public generally would not have approved the only efficient measures? If it is not one duty of rulers to take the initiative to ascertain what steps are requisite in great and sudden emergencies, and then to inform its people and thus create an enlightened opinion on the matter, it is about time to give

up theories of Government, to expect nothing wise, nothing virtuous, nothing progressive from statesmen, but merely to look for this result, that they shall move when they are pushed, and stop when the popular pressure relaxes.

"The most wonderful thing just now is to see stock owners losing their cattle, and still in a resigned attitude of mind—rosy only with good natured sadness, not with boiling temper. But it is enough to enrage any class, except that of tenant farmers, to take one glance at other countries saved by administrative vigor, and then to look at our own condition.

Here are a few of the figures relative to Great Britain :

Week ending—	No. of attacks.
October 14.....	1,054
October 21.....	1,729
October 28.....	1,873
November 4.....	1,765
November 11.....	2,580
November 18.....	2,669
November 25.....	3,610
December 2.....	3,828
December 9.....	5,356
December 16.....	6,054
December 23.....	6,256
December 30.....	7,693
January 6.....	9,120
January 13.....	9,243

"The weekly increase latterly has been at the rate of about one-fifth. Supposing that this rate of progress continues, what will be the number of attacks in half a year's time? It is the old calculation over again of a farthing for the first nail of a horse's shoe, two farthings for the second nail, four farthings for the third, eight farthings for the fourth, and so on till you are surprised at the amount for the last nail of the fourth shoe. Adding one-fifth every week, we get some 40,000 attacks for the first week in March, 97,000 for the first week in April, 202,000 for the first week in May, 500,000 for the first week in June, over a million for the first week in July, by which time the total of cases would amount to no less than six millions. Half the head of cattle in the kingdom would, at this rate, be attacked by the first week in June. We do not say that this disease will spread regularly with this rapidity; we only say that it is actually extending with this speed now, and has been during the last few weeks. If anybody chooses to take it for granted that the totals will presently be found to fall off, and the disease gradually grow weaker in its murderous course, we are equally at liberty to expect that the mortality will increase."

The American Farmer.

Baltimore, July 1, 1866.

TERMS OF THE AMERICAN FARMER.

SUBSCRIPTION TWO DOLLARS PER ANNUM.

RATES OF ADVERTISING:

Eight lines of small type constitute a square.

	1 Mo.	3 Mo.	6 Mo.	1 Year.
One Square.....	\$2.00	\$5.00	\$10.00	\$15.00
Half Page.....	15.00	35.00	60.00	110.00
One Page.....	25.00	60.00	110.00	200.00

PUBLISHED BY

WORTHINGTON & LEWIS.

Office, 52 S. Gay street,

Near Exchange Place.

BALTIMORE.

How the Government Teaches Tobacco Growing.

There has been, in the agricultural journals, a great deal of criticism of the Government Department of Agriculture, with which, so far as it is personally unkind or unfriendly to the Commissioner, we do not sympathise. We have reason to think that officer a worthy gentleman, who is doing the best he can, at least, in what the Government has set him to do. He has done much useful service, he has put his department far in advance of what it has been heretofore, and is generally accorded, we believe, the merit, which is no small one, of having secured for himself many able assistants. The miserable business of broad cast seed-sowing, which makes a department of Government the distributing shop of seeds gathered from everywhere, or anywhere, the Commissioner is hardly responsible for. It has been carried on too long, and is too well established, to be broken up by less than a stronger hand than his. The thousands of little packages made up in the Commissioner's office, with the thousands of potted plants in the gardens, are so many petty "sops for Cerberus," without the help of which, with members of Congress, the department had suffered for necessary funds, or the Commissioner's official head had fallen. When that fine old Maryland gentleman, John G. Chapman, was in Congress, he bought, at a very high price, fifty to a hundred bushels of what, he had reason to think, a valuable variety of wheat; paid for it with his own money, and distributed it in small packages, at his own cost. But this is not the way of modern Congressmen. While they are liberal of affectionate remembrances to

their constituents, they saddle the expenses on a tax-burdened people; and the scandalous meanness must be covered by some such device as this distribution of seeds. For this, and the official publications which subserve, in a measure, the same end, we are not disposed to hold the Commissioner to too close an account. They are means to an end, justified in the minds of Government officers, by the high, State necessity, of holding on to their official positions.

But with the character and contents of these publications, we shall deal with candor and freedom. If the Federal Government sets up to teach, it is our duty to know, and our business to inform the readers of "The Farmer" of, the worth of what is put forth, by the head Professor of Modern Agricultural Science.

Our attention is drawn in this direction just now, by, what seems to us, the propriety of rescuing the fame of certain friends of ours, from the somewhat damaging eminence to which the Commissioner has exalted it. Turning, by accident, to the report of 1862, we find that the Government Professor gets up an essay on how to grow tobacco. Col. W. W. Bowie, of Prince George's, and Mr. Oliver N. Bryan, of Charles county, highly respectable citizens of Maryland, had published in "The American Farmer," valuable essays on the subject, as was well known to the Commissioner: for he was always wise enough to read "The Farmer," and it was his duty to have got one of them, to furnish him the necessary matter for the report on this subject, unless he could command the services of a writer having at least some knowledge of the subject.—But it was necessary, no doubt, to give the job to some one who had a friend in Congress, and knowledge of the subject seemed unnecessary, where the back volumes of "The American Farmer" were at hand. But even these, the writer of the made up essay, which goes out under the auspices of the Government, so mistakes and perverts, that the only wise thing said is, that "those who are commencing the culture of tobacco, should avail themselves of the services of an experienced man, who can supply the knowledge which cannot be learned from books." Meaning, of course, such books as this Government report.

Col. Bowie is made to say, that the tobacco crop should be "liberally top-dressed, every ten days, with a compost of unleached ashes, virgin woods' earth, pulverized sulphur, plaster and salt." Think of Mr. Bowie top-dressing his tobacco field of fifty acres, or Mr. Hill his field of a hundred acres, with a nicely prepared compost of impossible things, put on—"liberally"—"every ten days!"

Mr. Bryan, he says, advises, manuring the crop with Peruvian guano, "at the rate of a thousand pounds to the acre!"—or "hog manure,"—requiring a very big hog-pen to supply it—"or *well rotted* oak ashes,"—demanding a large consumption of oak timber,—"or well rotted stable manure, with plaster."

As doctors always follow their own prescriptions, let us assume that Col. Bowie has taken his own advice, and make an estimate of what he has done in the way of manuring. We will say he has been a "Paxtuxent Planter" for twenty-five years,—hoping no offence, if we do him any wrong on this point,—and suppose he has cultivated, each year, in tobacco, a field of fifty acres: A "liberal" dressing of compost would be, say twenty-five horse-cart loads per acre. Put this on "every ten days," up to the first week of August, when the suns of summer might be supposed to repress his energies, and the state of the growing crop might present some obstacles, the matter would stand about thus:—Six applications a season, one hundred and fifty loads per acre; for fifty acres, seven thousand five hundred loads; fifty acres for twenty-five years, **ONE HUNDRED AND EIGHTY-SEVEN THOUSAND AND FIVE HUNDRED LOADS OF COMPOST**, which he has manipulated in the short period named.

Of course, neither Col. Bowie nor Mr. Bryan have advised any such nonsense, as is ascribed to them. The explanation of the matter is, that their manuring prescriptions was intended for the little plots, in which the plants are raised, which require special nursing and forcing, and the writer for the Government Department of Agriculture, was first too careless to quote them correctly, and then, too ignorant of his subject to see the folly of the mistake he has made.

Let it not be supposed we have misrepresented this essayist. He, very probably, took the gentlemen named to be enterprising Northern men, who had settled in the lower counties, and were teaching the natives wisdom. He, plainly, admired their liberal way of manuring, for he had just been comparing the tobacco growing of Connecticut and Maryland, to the disadvantage of the latter, and quotes these writers to show, that a new light was dawning in this region. The "curse of slavery" being now "wiped out," it will be expected of such men of progress, that they advance these rates of manuring up to the present "situation." Perhaps they will be good enough to let *The Old Farmer* know, what they are thinking, after further reflection, of agricultural matters in general, and of manuring tobacco fields in particular.

What the Government Teaches of the "Destruction of Soils."

In the Report, before alluded to, of the Commissioner of Agriculture, is an item headed "Destruction of Soil," embraced in the article on Agricultural Statistics, from which we quote as follows: "But few greater calamities could befall a nation than the impoverishment of its lands.—Virginia stands as a lesson to other States. Her unskillful tobacco cultivation ruined the finest portion of her territory."

In a grave State paper on statistics, ornament is not looked for, for rhetoric can add nothing to the force of figures. The Commissioner, therefore, might have dispensed with the flourish about Virginia. If it were original, and fresh, and beautiful, as it is stale, flat, and unprofitable, it would still only gratify the base sentiment which delights in the detraction of that brave old State. We pass over, however, a matter of taste, and prepare to notice again the teachings of the Government officer, who assumes the duty of Instructor General in Agriculture. We mean to show, that if his taste is bad, his teaching is worse, and that in making a mean fling at Virginia he has betrayed not a want of acquaintance with facts merely, but ignorance of scientific truth. And we do so, not for the sake of discussion, or to make up an article, but because the truth ignored, not by the Commissioner only, but frequently and commonly, is of very material importance.

He tells us that a portion of the territory of Virginia is "ruined." We deny that any portion of her territory is ruined, in the sense he means to convey, that is by "the destruction of the soil." He says, the "finest portion" is ruined. We say, if any be ruined, it is not the finest. He says, it is ruined by "unskillful tobacco cultivation." We deny that what he calls "ruin" is the effect of "unskillful tobacco cultivation."

We will consider these points in their reverse order, and begin with the last. It is a mistake to suppose that tobacco is an especially exhausting crop. It does, indeed, make large drafts from the soil, of its mineral constituents, but of these it leaves behind, in the stalk and waste, a large portion, in condition so available that no fertilizer is more prized than the waste from the tobacco house. Its cultivation demands the most thorough preparation for planting, and the most careful exclusion of weeds, and requires very little exposure of the soil to the summer's sun, before it becomes closely shaded by the spreading leaves. When the crop comes off, the ground is in the best condition for grain, and especially for the clover and grass following, which flourish as after no other crop. Then the degree of care, and

good cultivation, which tobacco demands, educates the most careless farmer into good habits. Whatever the condition of the farm otherwise, there is always before him, in the tobacco field, an example of good cultivation, which has its influence on the general management. It cannot be said of such a crop that, well cultivated, it is destructive of the soil. On the contrary, the necessary manuring, the careful husbandry, the excellent preparation it makes for the cheap improvement by clover and the grasses, has made it a conservative element in our system of cropping.

But "unskillful tobacco cultivation" is the language of the Report; and, paradoxical as it may seem, the remark is as little true of unskillful as of skillful cultivation. In the early history of our tobacco growing, when the present well known means of maintaining fertility were little known, and less practised, it was the very want of skill which characterized it, that preserved the soil.—Skill enables the cultivator to take the largest possible crops, and to continue their production the longest time. The greater the skill, the greater the draft upon the essential elements of the soil. Wanting this, there was a necessity for resorting continually to new surfaces, where the overlying mould would substitute thorough and skillful working; and so while the old lands were not ruined, new lands were constantly opened to cultivation. The harm done was the skimming of the surface soil, the good, the subjection of the forest lands to the plough.

As to the point, that "the *finest* portion of her territory" has been destroyed, as the Report has it, it does not need discussion. So far as the destruction went, such lands gave way fastest, as were least capable of withstanding the treatment they received, and these were certainly, not the finest. Or if it be maintained, that the best were first opened, and longest subjected to hard usage, the answer is, that it is contrary to all experience that the most fertile lands of a new country are opened first. The settler brings first into cultivation such lands as offer least resistance to his axe, and these are not the richest. But the facts speak for themselves. Some of the finest lands which the world knows almost, are those which for four years past have been devastated by contending armies, within the limits of Virginia.—She owns them still, and if she has had any better, destroyed by tobacco cultivation, we do not know of it.

Now, as to the other and most important point, that of "the destruction of the soil:" We deny that there is any destruction, or any material approach to it, in the sense which the Commiss-

sioner means to convey. The words he uses, and the kindred expression "worn out," convey a lesson that is inconsistent with the teachings of science. These terms grew, naturally enough, out of the common opinion of times past, that "soil" meant only a few inches of surface earth, mixed with the vegetable remains of the forest, and of the plants that had perished on it, and that these constituted its chief, if not its only, value. This vegetable mould was the measure of fertility; if it abounded, the soil was rich—if deficient, it was poor. It was proper that those who held that opinion, should say, when these original surface accumulations of vegetable material were consumed, that the soil was "exhausted," or "destroyed," or "worn out." That was indeed worn out, which, in their opinion, made the soil. The expressions were the outgrowth of an erroneous notion, and being so, they represent, and uphold, and teach that error still; and that, we maintain, the Commissioner of Agriculture, least of all, has a right to do.

Modern science teaches that the earthy elements are as necessary, at least, as the atmospheric, and as the latter abound and super-abound outside of the soil, and when consumed are readily replaced, we are taught to estimate a soil, by the variety, the proportion, and the condition of its inorganic elements. Well constituted as regards these, it is a good soil, otherwise a poor one, without reference to the quantity of vegetable mould which may happen to be present. The point we make is, that there is no evidence that any such soil has ever, since the world began, been worn out. Its original proportions may have been somewhat altered, by the draft of certain crops on certain elements, and the original balance somewhat disturbed of the presently available portions of these elements, but that this is not destruction, thousands of familiar instances of restored fertility are the proof. It is a present disability, which the intelligence and skill of the cultivator is called on to correct. In some cases, and with the inferior class of soils, he will find occasion to feed his crops, as he would his animals, with food fit for them—special applications to meet special demands; but in well constituted soils, he must bring to bear chiefly, the art and appliances of skillful cultivation, not because the soil has been destroyed, but because of its indestructibility.—He needs to break up combinations, and to set free, and make available, to his crops, the elements which the earth locks up too closely. He must dig as for hid treasure; there must be hard knocks before the door will be opened. All this is inconsistent with the rapid wearing out which the other opinion teaches, and only shows that

the wearing is not fast enough, to meet the wants of cultivation. We might fear the result of these operations, if there were reason to think that there was any material difference between those portions of the soil fit for plant food, and those not fit, except as to their present availability.

That surface skimming of the soil, of all the old States,—of Virginia, no more than any other, has been more the consequence of sparseness of population, and scarcity of labor, than any other cause. It was more convenient, and thought to be more profitable, to open new lands, than to renew the old; and, finally, more profitable still to transport the laboring population to the wealthy cotton and sugar lands of the Southwestern States.

Cats and Clover.

By what manner of con-cat-enation cats and clover are brought into conjunction, many of our readers will wonder. If we make a farmer believe that his crop of clover depends somewhat on the life of his cat, will he not begin to felicitate himself that the cat has nine lives, and take more care that they be not needlessly destroyed?

Mr. Darwin, in his work on "Species in our Domesticated Animals and Cultivated Plants," records some interesting observations and facts, on the fertilizing of plants, by the agency of insects. The tubes of the corollas of the common red and incarnate clovers, (*trifolium pratense* and *incarnatum*), do not appear, at a hasty glance, to differ much in length; yet the hive-bee can easily suck the nectar out of the incarnate clover, but not out of the common red clover. The hive-bee, accordingly, visits the former; and these visits, it appears, from experiments recently made, are necessary for the fertilization of the plant.—The common red clover is visited by humble-bees alone, and Mr. Darwin thinks that if the whole genus of humbles became extinct, or very rare, the red clover would also become very rare, or wholly disappear. The number of humble-bees in any district depends, in a great degree, on the number of field-mice, which destroy their combs and nests; and Mr. H. Newman, who has long attended to the habits of humble-bees, believes that more than two-thirds of them are thus destroyed all over England. Now the number of mice is largely dependent, as every one knows, on the number of cats; and Mr. Newman says: "Near villages, and small towns, I have found the nests of humble-bees more numerous than elsewhere, which I attribute to the number of cats, which destroy the mice." "Hence," says Mr. Darwin, "it is quite credible that the presence of a feline

animal in large numbers, in a district, might determine, through their intervention, first of mice, and then of bees, the frequency of certain flowers in that district."

This gives us a somewhat striking impression of the singular complication in the relations of natural objects, which we look upon generally as having a very remote connection, and makes us think there was a little philosophy, may be, in the old nursery story, showing how the cat helped the old woman to get an obstinate pig over the bridge—"the cat began to kill the rat, the rat began to gnaw the rope, the rope began to hang the butcher," and so on to the interesting consummation, when, we are told, "piggy began to go."

But Mr. Darwin makes an extreme statement in favor of the bees and the cats, for he overlooks the fact that both the clovers referred to are frequented by butterflies, which have a much longer proboscis than bees, and also by certain day-flying moths; and, as fertilization in these clovers seems to depend on the corolla being moved, and the pollen thus pushed on to the stigmatic surface, their comparatively tranquil visits may suffice for this purpose, as well as the bustling activity of the restless bees.

Humble-bees seem also indispensable to the fertilization of the violet, and Mr. Darwin dreads a similar fate for it, if these insects should be destroyed. The existence of natural objects, however, has seldom been left to so uncertain contingencies. When one mode of propagation fails, another frequently comes into operation, and the violet would increase from off-shoots, even if it scarcely ever ripened a seed; just as mice, especially field mice, would be kept in check by rapacious birds and weasels, even if cats were to fail throughout the land.

Fruit Cultivation.

Being quite satisfied that the cultivation of fruit is a growing, and, destined soon to be, a great interest, in Maryland especially, we shall give greater attention, in future, to this department of "The Farmer," and hope to have it well furnished with original matter from reliable and competent sources.

Mr. Daniel Barker, of the Maryland Agricultural College, a horticulturist of long experience in England, and this country, we are indebted to, for our monthly notes for the *Fruit, Flower, and Vegetable Garden*. Hereafter, with such other, thoroughly competent assistants as may be needed, we shall enlarge this whole department, and give it increased value and interest.

The Friends of "The Farmer".

Can do us a special service and favor, by making its re-issue known, and by commanding it to their friends, as they have opportunity. They may feel perfectly assured that neither cost nor effort will be spared, to give it the full measure of value it had in former years, and to insure, by suitable improvements, its adaptation to the material changes which are now going on, in the system of agriculture of the Middle and Southern States.

Correspondents.

We shall be glad to hear from our friends in all parts of the country, upon topics of agricultural and horticultural interest. Whether designed for publication or not, their communications are interesting and useful to us. We wish especially to be kept informed as to the prospects and results of the crops of the season. Heretofore, we have been able to render valuable service to our readers, by information of this sort, gathered from all quarters.

Discussions of topics of agricultural interest, under proper restrictions, rarely fail to be useful, and usually excite much attention. It is difficult to estimate the influence upon Maryland, and Southern agriculture, of such a discussion as that which was published many years ago, in "The Farmer," between Cols. Capron and Carey, chiefly, upon the subject of land improvement in Maryland, or the subsequent one, between Mr. Edmund Ruffin, Dr. P. B. Pendleton, T. G. Clawson, Esq., and the present editor of "The Farmer," as to the action of lime on a certain class of soils. We invite our friends to such discussions; and hope to enlist many of the ablest, and most intelligent agricultural writers of the day, in this, or other forms of communication with our readers.

MANUFACTURERS AND VENDERS OF AGRICULTURAL IMPLEMENTS AND MACHINERY, and of the many valuable Fertilizers, offered for sale, we shall be glad to hear from, as to anything new and interesting in their several lines of business, and to afford them every facility for communicating with the agricultural community.

FRUIT GROWERS AND NURSERYMEN are especially invited to communicate such information as to their specialties, as they deem desirable to have brought to notice.

STOCK GROWERS.—We shall have constant inquiries, from the South, for every description of improved stock, and wish to be properly informed as to the character of the flocks and herds accessible to Baltimore.

AYRSHIRE CATTLE.—There is but one thorough, and well-bred, herd of these valuable cattle in Maryland, that we know of,—that of Ramsay McHenry, Esq., of Harford county. Pure Berkshires, the best bacon hogs of the improved breeds, also, so far as we know, owe their present existence in Maryland to the good taste, in such matters, of the same gentleman. We shall be glad to get information of any well-bred Ayrshires outside of Maryland.

NORMAN HORSES.—Slaughter W. Ficklin, Esq., a noted breeder of blooded stock, near Charlottesville, Va., has just imported two Norman stallions and two mares of the same breed.

Southern Correspondence.

The state of affairs at the time, made it impossible for the notice which we gave of the suspension of "The American Farmer," to reach our Southern subscribers. Having no other means of communicating with them, except so far as a limited correspondence could go, we have received very many letters of inquiry as to what has become of "The Farmer," and when a renewal of its visits may be expected. Most of these are long letters, written out of the fulness of the heart, giving sad recitals of the condition of things around the writers, but without exception in a hopeful and cheerful tone. We give a few extracts, which fairly represent the general character of this correspondence.

A gentleman near Richmond, who for twenty consecutive years has held high public positions in Virginia, having heard that "The Farmer" was about to be issued again, says:

"I cannot forbear the expression of my sincere congratulations on the revival of "The American Farmer." I have a few scattered volumes left me, and my delight has been to read and re-read them at leisure times. * * * I have no hope nor desire for public office again, and now, in the middle of life, with ruined fortunes, and a large family, I have to seek a livelihood from the ground. I confidently look to "The American Farmer" to lighten my labors, &c. The old "Farmer" will be a most welcome visitor throughout the length and breadth of the land, especially to me and mine. It was a great favorite in my household. Set me down as a subscriber, and if it takes a cow to pay the subscription, I should consider it cheap."

Of the present situation, he says: "I was unable to get the requisite team and seed to put in, even a few acres of wheat, and with everything to buy and nothing to sell, the prospect is very dark. The total destruction of my wood land

and fences, prevents my attempting any more than will secure my family subsistence. My condition is not singular by any means. I am sorry to say. The Sheriff, who called to-day to collect the State taxes, told me that he had levied, this morning, distresses, on two gentlemen, whose taxable property was assessed at \$30,000. Apart from the grain and tobacco, nothing that we could rake up, would supply our great need of money, for if a sale could be effected, it would be at much below real value, or, to secure anything like a fair price, it would be on credit."

Of the wheat crop, he says: "The wheat crop in all this section, is simply miserable. I have not heard of a single lot of good wheat in this whole region, and such is the complaint of friends and acquaintances in other sections of the State. One-third of a crop is the highest estimate I have heard. I had hoped that with the new crop of wheat, I should be able to indulge in 'wheaten bread,' in the future—but I must hold on to corn bread another term, I reckon."

Of the Freedmen's Bureau, he says: "It is, in all its ramifications, fraught with evil consequences, both to white and black, and can never be otherwise. So far as I know, we have all very kindly relations, not only to our former slaves, but the negro generally, and he reciprocates this feeling, when he is left to himself, free from the influences above referred to, and the continual efforts of Northern emissaries, in the shape of preachers and 'school marms.' Vast numbers of our old slaves have died, and very many more will have passed away, before the year shall have closed."

This letter was of the date of 31st of May.—From another, written several months earlier, we extract as follows: "After an interval of four long years, I trust my letter will find you in good health, and prosperity,—ready, as 'in days of yore,' to assist and instruct your friends in old, and, I must now say, *poor* Virginia, and that the political events of the past four years, have not erased from your heart the kindly feelings, you formerly, (as I thought,) entertained for your brother farmers in this old commonwealth.

"You are aware of the prostration and exhaustion now existing within our borders, but the true condition of things must be seen to be understood. In a large portion of our State, shot, shell, and spade, have done the work of the plough and harrow, and a system of 'trenching' has been carried on, on a grander scale than was ever contemplated, by the advocates of that means of improving land, or than treated of in agricultural journals. It was Mahan *versus* Von Thaer and Jethro Tull.

"Like the majority of farmers, I have suffered severely; my stock reduced to nothing, implements worn out or stolen, &c., I must start afresh. The incubus of slavery, thank God, is done away with forever. I feel that there has been a load taken from my back, as well as from others. I superintend the operations of my farm in person; from morning until night I am with my servants, and, I assure you, with more zest and pleasure than ever before. The negroes in this section of the country, (Albemarle county,) have behaved well, all things considered. Poor creatures,—where you can count a dozen now, in a few years, you will not see one; the emigration that we may expect, and which I hope will come *soon*, and *largely*, will gradually drive them out of the State.

"My object in addressing you is, first, to ascertain if your valuable paper is still in existence, and second, to get some information in regard to stock, grass seeds, &c. My wants are necessarily numerous, while my means are correspondingly small. My first want is 'The American Farmer.' I want grass seeds, clover, timothy, and red-top; a thorough-bred bull, and one or two milch cows, Devon or Durham; a few Southdown ewes, and one buck, &c. If I had 'The Farmer,' of a late issue, I need not trouble you for information as to these things, as I have no doubt I could get it from its pages. Glad will I be, indeed, to hear that 'The American Farmer' is still in existence, and thrice glad when I see its familiar face once more."

We add the following from one of the most prominent and estimable citizens of North Carolina, dated 5th of June, at Lexington:

"I am fully in a situation to sympathize with all who have suffered in the last five years; have lost two noble sons, the last of five, except the eldest; one hundred and ten negroes; with the usual depredations of three armies, camped near me. I have saved, mostly, my horses, mules, and cattle and sheep, and pretty flat down, trying contrabands to raise grains and cotton. The Freedman's Bureau here is a great drawback upon us. The negro does not expect to be ruled by his necessities, to a system of continuous labor, so important to the farmer; he has lost all care for himself, or others, and considers freedom to consist of an exemption of labor, care, or interest in anything. It will take time and experience to cure him of this, and necessity must teach him self-reliance. Enough of this! We are cheerful, poor, and hopeful, and reconciled to our condition. If we were let alone, and placed under the aegis of our Federal Constitution, we would most faithfully adhere to its provisions.—I think we are the best Union men."

Cultivation and Manure as Fertilizing Agents.

By Henry Tanner, Professor of Agriculture,
Queen's College, Birmingham.

[Premium—Medium Gold Medal.]

In order that a clear view may be taken of the relative value of these agencies, it is necessary that the nature of the soil should be examined, and its general properties understood. Soils may be considered as consisting of matter in three distinct conditions. The first has been termed the *active matter* of soils, because it exists in a condition capable of being dissolved in water, and consequently available for entering into the circulation of plants and ministering to their growth. It has therefore received the term *active*, as being ready for the immediate discharge of its duties; and in this respect it differs very materially from the two other portions of the soil. The second portion has been named the *dormant* matter of the soil, not that it is dead or useless, but simply in a state of inactivity, being insoluble in water, and therefore unfitted for entering into plants. It might, however, be said that all matter which is not active must be dormant, and this is quite true; but for the convenience of more clearly explaining the component parts of the soil, a further division has been found desirable, and hence we have a third portion, or the *grit* of the soil. We must, therefore, view the soil not as a homogeneous mass, but as consisting of ingredients congregated into three classes, as—

The *active* matter of the soil;
The *dormant* matter of the soil; and
The *gritty* portion.

By the aid of chemical analysis, each of these may be again subdivided into the several ingredients of which it may be composed. It will at once be evident that an analysis of the entire mass of the soil would give information which must be looked upon with caution, and used with discretion. If an agriculturist wishes to know the composition of any particular soil, it is manifest that he requires, not an examination of the entire soil, but to know the constituents which compose the *active ingredients* of the soil, for these are the materials which influence the immediate fertility of the soil, and regulate its productive character.

If you examine the three classes already named, you will see that they are simply distinct stages, through which the soil has progressed or is progressing. We have the grit or stony portion—the type of the original rocks, from which all soils are produced—and these are the fractured

particles which have withstood the disintegrating action of the atmospheric agencies for a longer period than the other portions. But as under the crumbling influence of the air, moisture, and change of temperature, these become broken up into a smaller and finer state, this gritty matter changes into the dormant matter of our soils, in condition and appearance forming part of the soil, but still insoluble, and therefore valueless as food for vegetation. Such then is the matter of the second class, or the dormant portion—viz, the finely disintegrated portions of the rocks and stones, apparently available for vegetable growth, but still not in a condition to fulfil that expectation. When, however, the dormant matter has been more fully acted upon by the chemical agents in the rain and air, then its character alters, and it no longer remains insoluble, but it readily dissolves in water, and consequently assumes the active condition. Thus, each of these stages is a progressive advance,—the *grit* will ultimately become the pulverised *dormant* matter, and this will advance into the *active* condition. For these reasons we may consider—

The active ingredients of the soil as the portion ready for immediate use;

The dormant portion to be rendered useful by cultivation;

The grit which is the store for future years.

We have every reason to believe that each of these portions may be composed of matter equally valuable as fertilizing agents, but differing only in one respect—viz, the time of their being available for use. Dr. Daubeny proposed the two appropriate terms of "*active*" and "*dormant*," for the two conditions already described, and, in a communication to the Royal Agricultural Society, has shown the extent to which this distinction exists in soils. From the analysis given, it appears that about one-half of the alkalies, and one-eighth of the phosphoric acid, were in an active form in the soils examined, and the remainder were *dormant*. If, therefore, a person had estimated the powers of the soil by its full analysis, he would have anticipated the aid of nearly double the quantity of alkaline matter, and eight times the quantity of phosphoric acid, which really existed in a form available for immediate use.

I shall now proceed to show the manner in which bodies existing in the soil in a *dormant* condition can be rendered active, and thereby available for the processes of vegetation. I need not do more than remind you that two agencies are very influential in accomplishing this. These are rain water and changes of temperature.—Rain water is not *pure* water, but as it falls

through the air it dissolves carbonic acid gas existing there. It also carries with it some of the atmospheric air, and these gases, being conveyed into the soil, perform very important duties, and contribute to the one which now claims our attention—viz: the conversion of the dormant ingredients of the soil into active condition.

Chemical research has proved that carbonic acid and oxygen co-operate in carrying on a slow and almost imperceptible action upon the ingredients of the soil, thereby changing the insoluble gritty matter of our soils into dormant matter, this again into the more complete and active state, and then they assist in the final appropriation of it by the crop. Thus, the same agents co-operate throughout the entire change, and enable matter to assume these new forms. This action is of a chemical character, but it is powerfully promoted by the mechanical assistance rendered by changes of temperature. The influence of this is to be traced to the fact that bodies when they are hot occupy more space than when when they are cold; hence, by rendering a body hot and cold, you weaken its cohesive power.—This is especially observable when the change of temperature is great, or when water is present in the soil. All have noticed the effects of frost upon the clods of soil in our fields.—how the frost binds them together with the hardness of a rock, and, when it thaws, crumbles them into a powder.—This same action takes place *in the particles of the soil*, in a greater or less degree, according as they may be more or less exposed to the influence, and this breaking up of the soil exposes fresh portions to the action of the chemical agents spoken of. Thus the combined action of these very simple agents accomplishes, by slow but steady action, very material changes in the soil, rendering its fertilizing ingredients available for use, and unlocking the stores which nature has made for our present and future requirements. This is a very hasty sketch of the materials which we have to deal with; but we must go on to show in what manner the processes of cultivation render the soil more fertile by the development of its own resources.

The tillage of the land is designed to prepare it for the germination of the seed, and, finally, the perfection of the crop. For the accomplishment of the former, the land has to be brought into a state favorable for the germination of the seed, or, in more general terms, I should say, into that free and loose condition which is known to be so necessary a preparation for sowing. This condition, which is favorable for the first growth, is equally so for the subsequent perfection of the crop. The operations by which this result is

gained consist of plowing, rolling, harrowing, &c., and these are very beneficial in increasing the fertility of the land. In fact, we may view them as so many means for exposing the various parts of the soil to the action of the air, rain, frost and light.

I have already stated that the carbonic acid and oxygen carried into the soil promote the chemical changes which awaken the dormant ingredients of the soil, and bring them into active exercise. In like manner, those parts of the soil which are upon the surface are exposed to these chemical changes, and thus a ceaseless action appears to be going on between them. This change is one by which the mineral matter of the soil is acted upon, but, in addition to this, we have other changes produced—viz, the decay of the *organic matter* of the soil—for the air and moisture promote changes in its character, and thus render it valuable for promoting vegetable nutrition. It is, however, worthy of note that, whilst the organic matter of the soil is undergoing decay or decomposition, this change favors and promotes the conversion of the mineral matter of the soil from a comparatively useless state into a condition suited for the wants of our crops. Any process or operation which stirs the soil, and brings fresh portions under the influence of decomposition, promotes these changes in the organic and the mineral matter of the soil, thereby rendering them available for the nutrition of our crops.

In this manner *the stores of the soil are opened up and rendered useful*; but I have now to show that tillage operations not only accomplish this desirable result, but they also prepare the soil for abstracting from the atmosphere fertilizing matter. The value of ammonia as a manure is well known, and upon its action the beneficial character of many of our manures is based. It is an expensive manure, but still its judicious use is remunerative in a very high degree. We send many thousands of miles for a large portion of our supplies, yet it is found in the atmosphere floating around us, and is there present in a condition available for the use of vegetation. It is not necessary or desirable for me to refer to the sources from whence it is supplied to the atmosphere; it is enough for us to know the valuable fact that there are abundant stores prepared for the cultivator who is ready to receive a supply therefrom. It is with great pleasure that I refer to a very valuable contribution to our knowledge of the principles which regulate agricultural practice by Professor Way. It will be found in the sixteenth volume of the Royal Agricultural Society's Journal. He there proves the presence

of nitric acid and ammonia in the atmosphere; that these bodies are removed from the air in two ways—by the absorptive powers of the soil, and by the rain dissolving them and carrying them into the soil. He very judiciously remarks:—“The atmosphere is to the farmer like the sea to the fisherman, and he who spreads his net the widest will catch the most.” It is not that all land derives equal advantage from this magazine of wealth, but land receives and profits just in proportion as the industry and intelligence of man renders it capable of drinking in these fertilizing matters.

Thus, you observe, there are two channels through which the nitric acid and ammonia of the atmosphere become introduced into the soil—the one by the direct absorptive powers of the soil, and the other by the intervention of rain bringing fresh stores within reach of the soil. With regard to the former of them, I may say, that although it does not come properly within the limits of the subject under our notice, still the practical connection is so manifest that I shall not refrain from going into some brief notice of it; but before doing so, I shall notice the agency of rain. This must be viewed as an assistant agent which gathers the accumulations in the atmosphere, and brings them within the influence of the absorptive powers of the soil. If, therefore, such rain passes away on the surface without entering into the soil, it is manifest that its services are lost. Hence land which by natural or artificial drainage allows the rain to pass through it, carries into the soil its hidden treasure, which in any other case would pass away to some other recipient, or to the nearest streamlet. The value of its assistance to any agriculturist simply depends upon its services being accepted and turned to some useful account, or else rejected, and its agency wasted.

We may now notice the absorptive powers of our soils. The researches of Professor Way (published in the *Journal of the Royal Agricultural Society*, volume 15) are of the deepest importance to agriculturists. I will, therefore, briefly bring before you the results of these researches. It was observed that when a solution containing ammonia (or other alkaline salts) was passed through a portion of soil, the soil separated the ammonia from the liquid, preserving it from being again washed out of the soil; and this action was finally traced to the presence of bodies in the soil, known as the double silicates. A silicate is a compound of silica with another body—say for instance silica and soda produce a silicate of soda—but the double silicates are very peculiar, for in these we have silica combining not with one body but

with two bodies: for example, there is the double silicate of soda and alumina; the double silicate of lime and alumina; and a third, which is the double silicate of ammonia and alumina. But you will observe that alumina is present in each, and the only difference is that soda is present in the first, lime in the second, and ammonia in the third. In most soils we find these double silicates present, but their value varies very considerably. We may now observe the difference in their character and mode of action. The double silicate of soda and the double silicate of lime are each capable of separating ammonia when it is dissolved in water, but the double silicate of lime alone has the power of separating ammonia from the air; the double silicate of lime is, therefore, decidedly the more valuable salt of the two. The double silicate of soda is readily converted into the double silicate of lime when lime is added to the soil, consequently the addition of lime to the soil renders it competent to absorb more ammonia from the atmosphere, and thereby gives it greater powers of acquiring fertilizing matter than it previously possessed.*

* The more recent researches of others seem to demonstrate that the retention of ammonia by the soil is due not so much to chemical as to physical causes. Most soil can so far retain pure ammonia, but it is only those which contain lime that can first decompose the salts of ammonia and afterwards allow surface attraction betwixt the two to act.—ED.

[TO BE CONTINUED.]

Cream Cheese.

An inquiry in the London *Field* for a recipe for making cream cheese was replied to as follows by three correspondents:

“We put a quart of cream into a clean jng, with half a teaspoonful of salt stirred in, and let it stand a day or two, till thickish. Then we fold an ordinary grass cloth about six or eight times and sprinkle it with salt, then lay it in a sieve about eight inches in diameter. The sides of the cloth should come up well over the sides. Then pour in the cream and sprinkle a little salt on it. Change the cloth as often as it becomes moist, and as the cheese dries press it with the cloth and sieve. In about a week or nine days it will be prime and fit to eat. The air alone suffices to turn the cream into cheese.

“Take about a half pint of cream, tie it up in a piece of thin muslin and suspend it in a cool place. After five or six days take it out of the muslin and put it between two plates, with a small weight on the upper one. This will make it a good shape for the table, and also help to ripen the cheese, which will be fit to use in about eight days from the commencement of the making.

“Take a quart of cream, either fresh or sour, mix about a saltspoonful of salt, and the same quantity of sugar. Put it in a cloth with a net outside, hang it up and change the cloth every other day; in ten days it will be fit for use.”

Sandy Lands and their Improvement.

We have often taken occasion to disabuse the minds of our readers of the very low estimate so commonly entertained of the value of what we call "sandy lands." There are tracts of such lands very common in Maryland and the more Southern States, the intrinsic value of which are entirely lost sight of, under a hereditary impression that as they have been easily "worn out," they will poorly repay the cost of improvement. We have also repudiated frequently the idea of the so early wearing out of that which was manifestly destined by Providence to last very long. If soils can be worn out so readily as common opinion allows, men would seem to be *nomads* of necessity, wandering over the face of the earth for new fields to exhaust, and to be brought ere long to the goal of the Macedonian warrior, without another world to conquer. It is not, however, for the purpose of extended remark, or to suggest means of improving the class of soils named at the head of this article, but to show rather by example what has been done in this direction, under circumstances far more unfavorable than any our readers are called to deal with, for we have not seen or heard of here, any thing so hopeless by half, as the blowing sands of the Campine plains of Belgium. In the lesson conveyed, we have a striking proof of what can be effected by pains-taking industry, and by a careful saving and expenditure of manure, in reducing to smiling fertility tracts of land, which, from their normal condition of utter barrenness and wildness, may be taken as a type of all that is sterile, and all that is most hopeless, and most forbidding of aspect to the husbandman. We quote from *Notes taken during a Tour in Belgium, Holland, and on the Rhine*, by Scotch farmer :

"The Campine is the name given to the largest plain in Belgium, which extends over a great part of the provinces of Antwerp and of Limbourg. It is impossible by words to convey any idea of the wild and apparently hopelessly unproductive condition of large tracts of this plain. Sand every where—huge mounds of it glistening in the sunlight—sand so thin and fine that it runs down the sides of the heaps in rills, moved by the passing breeze, or driven into clouds under the feet of the toiling wayfarer; long tracts thinly covered with heath, or with marshy plants, and interspersed here and there with pools of water, patches of stunted firs, or miserable brushwood. But every now and then, as if to raise the spirits of the wanderer, otherwise too much oppressed by the desert around him, patches of smiling verdure greet his eye, and, presenting a glad contrast to the barrenness beyond, show what can

be done by willing man in wresting fertility from sterility, and in making, most literally, the desert to bloom and blossom like a rose. No contrast, indeed, can be more striking than that presented to the weary wayfarer as he plods along through the wild tracts of the Campine, when he comes across a little farm, the boundaries of which are made up of the surrounding sand, and within which there is a little oasis of verdure and plenty. On one side of a narrow and deep furrow or ditch, you see a strip of rye or of colza; on the other, the sandy desert stretches out in its wildness, and you wonder at the magic which has transformed the glad greenness of the one from the dull dreariness of the other. Proud thoughts possess you as you think of the warfare thus kept up by man with the desert, and you look upon the little farm environed by the desert, the enemy, as the citadel which issues the mandate: "Thus far shalt thou come, and no farther;" and from which will go forth the intelligence and the industry which will ultimately gain other victories, and transform in process of time the wild heaths around, level the sand heaps, fill up the marshes and make the wild desert a rich garden of delights, to gladden the heart and please the eye of the husbandman. Slowly, but not the less surely, is this process of reducing the desert to fertility going on throughout the Campines. Farms are daily multiplying, irrigation is being rapidly proceeded with, roads, canals, and large tracts of meadows are being formed. One of the great instruments in this work of transformation has been the canals.—These have been formed on a very complete system, and at a large expense. By these canals the practice of irrigation is greatly aided, and they form the high roads so to speak, by which on the one hand the produce of the farms is taken to the markets, and by which, on the other, the manure is taken from the towns to the farms.—Such, in fact, is the whole essence of a treatise on Campinoise agriculture—"With the water, the grass; with the grass, the cattle; with the cattle, the manure; with manure, every thing nearly which one desires on a farm." Many of the richest gardens and the most fertile farms, in the neighborhood of the towns of the Campine, ten, twenty, and thirty years ago, were tracts of the most barren heath, and stretches of the dreariest sand. Whenever manure has been easily obtained, there it has been the most carefully preserved, and the most prudently applied; and in the history of facilities for obtaining abundant supplies of manure, you read the history of the culture of the deserts of the Campine.

"The white land—of which a large portion of the Antwerp Campines is formed—is so light and

so little retentive of water, that it passes it like a filter, and can only be made productive by mixing loam with it. The white sand hills are generally brought into cultivation on the large scale, by covering them with fir trees and with broom, the cones and leaves of which, as they fall, form in time a richer soil, and consolidate the sand.—In bringing in a tract of white sand on the *petre-culture* system, the small farmer first encloses a certain portion by surrounding it with a ditch. Broom is sown. This grows in the very poorest of soils, and its roots serve to consolidate the land, and its leaves to form a vegetable mould; but when in its third year it yields some return, being then sold for fuel. If manure is obtainable in any quantity, it is applied to the soil, which at this stage is fit to bear potatoes, buckwheat, or rye. A patch or two of clover begins to appear, and with the forage plants and roots come the cows, with the cows manure, and with increased supplies of manure come increased products, and so on in a continually increasing scale of fertility, until at last the sand tract is formed into a rich productive farm.

"The preparation and saving of *manures* form an important part of the labors of the Campinoise. In the care with which every thing is saved which can act as fertilizers, those acquainted with the country say that it exceeds the provinces of East and West Flanders, generally admitted to be at the head of all agricultural countries. The stable or cow-house manure, very much decomposed, is the principal manure, and that which renders the greatest services to the agriculturist. It is composed of the branches of the furze or gerse, of turf, or earth, all these being used as a litter for the stock. Straw also very frequently forms a part of it. Rye straw is most esteemed for this purpose, and is cut in two in order to render it more easily spread. Buckwheat straw is not held in great repute. The management of the litter of the cow-houses while forming it into manure, presents some features worthy of observation. Behind the cattle an excavation is made, into which the litter is placed on being taken from the stalls. This is beaten down by the passage of the animals, and of the workmen over it, till it is in a thoroughly compressed state. This method possesses nearly all the advantages of the "box-feeding" system, and is certainly better than that adopted in East and West Flanders, where the litter is thrown into the court yard, and left exposed to sun, air, and rain."

It is proposed in Charleston, S. C., to convert the square of the burnt district into a public garden.

Horse-Breeding.

Remarks of L. T. Tucker, Esq., of South Royalton, Vermont, at the Windsor County (Ver.) Farmers' Club.

The first thing to be done in breeding horses is to select the best animals, and the first indispensable quality in such animals is a good constitution. Without this as a foundation, all attempts to perfect a race of horses will be a failure. The animal that is selected for a breeder should have a deep chest, strong loins, good limbs and feet. The nervous temperament of the animal should by no means be overlooked. The eyes should be wide apart, full, and clear. The ears should set apart, not lopped off like those of a mule, nor pricked forward like the rabbit's. To these points of a good constitution and a fine nervous temperament, add all the symmetry you can. Make sure of good size; never take a mare weighing less than 1,000 to 1,200 pounds, and not below 15 to 16 hands high. The fault with most of the horses now in Vermont is, they are too small. Though we can never compete with the South and West in breeding large horses, we must breed such as will command the highest price in the market. Small horses may do most of our work here among our hills, but they will not sell well. We ought to raise those that will do our work equally as well as the present stock, and then sell for twice as much as those bring us which we now have to dispose of.

The next requisite is *blood*. Having selected your mare, never take any but a fixed blooded stallion. When you have the qualities already described, breed as much as possible for speed. When you produce a fast horse, you will always find a man ready to buy him, and other things being equal, the greater his speed the higher price he will bring.

In regard to *in-breeding*, we must breed near enough to secure the desired qualities, and when once secured, to retain them; but we should not breed nearer than first cousins if we could avoid it. If "in-and-in breeding" is followed more closely than this, and persisted in, your colts will be either stillborn, or if living, they will be cripples. We should never sell the best animals. When a man has disposed of his best breeding mare, he will advance in his work on the same plan that the "frog jumped out of the well"—one step ahead and two backward.

It is poor policy to go to the city and buy a broken down mare, thinking to make a breeder of her. In a great majority of cases you will only breed defective animals. Men should be

careful about breeding from too old stallions. No matter how famous a horse has been, and what his stock has proved, if he has lost his vitality, let him go—he will only work mischief in your herd if you try him.

In this business no one point demands more attention than the kind of a stallion with which the young mare is first coupled, as there can be but little if any doubt now, but that the first union will in a great measure influence all the after progeny. After a mare has been coupled, she should be kept from bad company—away from horses that are badly marked, with a big blaze in the face, a "wall-eye," or "white-stockings"—and she should always have the kindest treatment. Mares transmit more of their good qualities to the male offspring. You seldom if ever knew of a first rate stallion out of a poor mare.

But after you have exercised the best judgment in selecting your animals and coupling them, you will make but little progress in your work without the *best of care*. To raise first class horses, they must have "care first, care last, care in the midst of all things, and care without end."

ERION.

•••

Winter Feeding Cattle for Beef.

L. TUCKER & SON—Noticing in your last issue an inquiry as to how many pounds of beef can be made with one hundred pounds of corn meal and good hay, I will state what little experience I have had in that direction. I feed usually from two to three hundred bushels of grain to fattening cattle every winter. My plan is to buy good, thrifty three and four years old steers and oxen, that are well started—feed lightly at first, afterwards from two to eight quarts. Feed twice a day, according to size of animal—a fifteen hundred steer or ox four quarts each feed, giving them the best of care, to wit: good hay, fed at short intervals during the day, well carded once at least, and watered twice in the twenty-four hours; stables kept clean and warm, but well ventilated. My feed is usually corn, rye (or barley) and oats—equal parts by measure, well mixed and ground fine. Think I have never failed of one and a half pounds live weight, equal to one pound dressed weight, per day, with four quarts each feed, and have frequently done much better. Much depends upon the animal, and as much upon the care given them. I do not advocate very heavy feeding for profit. You can make more beef at less expense by taking longer time. All the undigested food is wasted.

As an experiment, I last winter took a pair of four years old steers, weighing 3550 lbs.; they

had previously been feed two months six quarts corn meal each, twice a day; they gained two pounds each per day. Changed to feed of rye, corn and oats, increasing gradually, two weeks, until I had got up to one and a half bushels to the pair per day, and roots twice a week to keep their appetite good. They gained three pounds each per day for six weeks, at which time they were taken to market. Had they been kept six weeks longer, they would not, upon same feed, have gained over two and a half pounds.

My experience is that a little grain increases the appetite for hay, which must be of the best quality, while an excess lessens it, and part of the grain passes off undigested. Where grain is cheap, worth less than good hay proportionally, more grain would be economical, as in some portions of the West. There, undoubtedly, the amount of grain mentioned above, will look small, but here in the old Bay State we have learned to make good beef on hay alone, and with a little grain, some mammoth oxen.—*Country Gentleman.*

S. M. C.

North Stockbridge, Mass.

Cattle for Feeding.

There is much good sense in the following extract from a recent writer on this subject:

To ensure success in feeding for the butcher, the great essentials to be provided are shelter, and a regular and plentiful supply of nourishing food. There is, however, another important matter to be attended to, and that is the selection of the animals themselves, as, without the most careful attention, and the cautious and cool exercise of mature judgment, it will be useless to attempt the fattening of cattle with the reasonable hope of being able to realize a handsome profit. The shelter may be very inadequate, and the food not nearly so good as it should be, and yet the beasts will thrive, do well, and leave a profit, if they are well bred and moderately good specimens of the breed they represent. On the other hand, if they are badly bred—that is to say, too much crossed, and more particularly if they are the offspring of a cross-bred bull—bitter disappointment will almost invariably be the result. Place such animals in the best stalls that can possibly be constructed for accommodation and warmth, and pamper them with every conceivable variety of food; yet they will scarcely attain to such a state of ripeness in six months as well-bred animals, (which, although they may still be crossed, are the produce of a thorough-bred bull,) will do in little over half that time.

Eng. Paper.

Use of Mules.

The value of mules on large plantations, where they have been chiefly in the hands of negroes, is very well known. Their endurance and ability to stand hard, rough usage, is acknowledged. But, generally, they are thought "ugly" animals in two senses of the word, and are therefore by no means duly appreciated. Their great docility under kind treatment, the age to which they live, and the economy of keeping, compared with the horse, should be better known. We give the following from a correspondent, at Nashville, of the *Country Gentleman*:

"The fact cannot be too deeply impressed on the minds of farmers, that there is nothing in the shape of working animals that can do the same amount of work in a generally variable climate, for as low a cost to the owner as the mule.

It would be worth the while of any person who has any doubts as to the docility, endurance or capacity for education of the mule, to inquire of a returned soldier, one who has been on the long and hard marches with either of our glorious armies, as to the use which the patient mule has been, and the manner their part of the marches has been performed.

But one opinion can be given: They are the strongest animals for their size, will endure the most hard work, and get along with the least to eat or drink of any animal we use for work. Oh, you cannot kill a mule! I am sorry to say that this last is the idea of too many of the drivers the poor creatures have to control them. The impression that all mules are vicious has also happily exploded, as experience has taught us that among the tens of thousand mules in an army, it is but seldom one kicks or has any vice that has not been taught them. To teach a team of mules to guide perfectly with one line is but the work of a few days; a perfectly green team, one that has never been harnessed, is expected to take its place regularly in the train in less than a week after being first hitched up or harnessed. There are with mules, as with horses, all qualities, from bad to good; and in the purchase of an animal we should endeavor never to get one of an inferior quality; a good one at any ordinary price is cheap, and a poor one for nothing is dear.

Size is desirable, but by no means should great consideration be placed upon height; it does not constitute size proper, although the purchases for the army were based upon the height of the animal. Let your judgment for a mule be in size as for an ox, high from the ground to the top of shoulder, but short legs. Beware of long-legged, slab-sided, small-bellied mules; they are not

reliable. Look well to the size of the barrel or body of the mule, don't think you are choosing a running horse; a small body that becomes even smaller at the hind quarters, is not what you want, but rather look for a mule that resembles the best brood mares in shape of body or barrel; they have endurance, and are most easily kept. Being thin is no great objection; it rather assists in picking out the form of the body to build upon.

Much information as to the character, disposition, &c., &c., of the mule, can be gained by noticing the way its head and ears are carried, both when in and out of motion. A fine mule will carry a high head, with ears in motion—is very quick to see and hear all that is passing.

As in the horse, blood will tell; the imported or half-breed Black Spanish Jack will always leave his impress on his off-pring, as will others of more humble origin. The mule from the imported jack can be discovered as quickly, and with as much certainty, as a colt from a thoroughbred stallion.

The legs of the mule should be broad and thin; like a fine blood horse, the joint's should be uncommonly large in proportion to the legs. The objection of the legs being too light, I have never known to hold good with mules if they were wide. The most durable colors are black, brown, grey, dun, spotted, including roan and sorrels. This is quite a question of fancy, as many persons prefer one above the other; for work there is about the same general difference as in the horse, except the black mules seems to have as good eyes as any other color. The hoofs of most army mules are suffering from a very common disease among horses in our best stables, contraction of the heels. It is as easy to cure this disease in the mule as in the horse, if you can make the blacksmith take sufficient interest in the animal, and not think because it will not show lameness, it therefore does not suffer.

Much good to both classes of animals, and a great saving to owners would occur if the use of the Good-enough horse-shoe, or some other of equally good kind, were more generally introduced. I have already given in a former article the relative value of the mule and horse for work for a term of years, and recommended to our farmers the use of the cheapest and best animal for farm work.

Further, it should be understood that mules are good animals to drive in carriages for pleasure as well as work. They are neither bad looking or bad drivers, and are used by many persons of wealth and taste in this city, because of their ability to endure hard driving on hard roads;

six to ten miles an hour is considered a good gate for a pair of driving mules. If good driving mules are wanted, don't use a whip about them; never let them become accustomed to a continual touching up."

Management of Young Pigs.

"Pigs, young or old, will eat anything, and pigs thrive in muck." During the last fifty years or so of my long life, I have at least thrice fifty times heard that singularly stupid remark from the lips of men whose experience, to say nothing about their possession of at least average common sense in regard to matters and things in general, should have taught them better.—Excepting young humans, I know of no creature that requires for the attainment of its greatest physical perfection, greater attention or more skillful management than a young pig. And, in truth, as to internal structure, there is far less difference than people in general suppose, between the young child and the young pig. Let the child be kept in comparative darkness, and on unwholesome food, and you will have in the result a stunted, weakly man or woman, of a scrofulous body and an intellect to match. In the case of the pig, of course, the intellect is out of the question. What you want to secure in piggy's case, is the greatest capacity in fattening, that it may be the earlier production, as to time, and yield the largest possible quantity of pork in cash. If you would ruin your pig, as to both of those requirements, pray take as your rule of porcine management the profound maxim quoted at the head of this brief paper, but be assured that, in doing so, you will make pig-feeding a mighty unprofitable pursuit, whether as to your larder or your purse.

Remember, young pigs, like young children, find weaning anything but a pleasant process. The former, like the latter, should be weaned gradually, and the gradation should be commenced very early. In my native county, Hampshire, England, we pay so much attention to pig management, that we have obtained the *soubriquet* of Hampshire hogs, and a few words as to our management of our porcine stock may not be unserviceable. We keep our breeding sows, when in pig, in all but actual fattening condition. Her food, besides being good, is always boiled, and always fed to her at about the temperature of new milk; it is given to her at regular hours, so that she may never be so hungry as to fret; it should always have a light sprinkling of salt, and, in addition to her feeding trough, she should always have a small cast iron

trough kept scrupulously clean, and constantly supplied with pure fresh water.

I presume the hog and her young family to be comfortably located in a roomy and detached sty, which, like the troughs, should be kept scrupulously clean, for though pigs undoubtedly will "thrive in muck," they will do so not because of the muck, but in spite of it, just as many a dirty and ill-fed boy lives, in spite of dirt and privation, to be a stout man. But who will venture to deny that he would have been still more robust if he had grown up without the dirt and privation instead of in spite of them.

In a good cleanly sty, rather high roofed, and with a ventilator above and behind her sleeping place, our Lady Bessy Hog, well fed, and regularly fed, will support her little family with profit to her keeper, and without visible injury to her own condition, for a full month. Then, let an opening be made at one side of her breeding sty, just large enough to allow of one of her youngsters getting from the sty into a narrow but enclosed adjoining slip, in which a shallow pan or trough of really good stuff, (barley-meal, thinly at first, mixed with milk, warm skimmed milk and water,) should be placed at three regular hours daily. The little pigs will at first feed in a slovenly fashion enough; their paws will be as deep as their snouts in the tempting mess, and their jaws will get more on the outside than on the inside. But *magister artium venter*—the belly is the great master of arts, applies no less truly and strongly to pigs than to men, and after a day or two your young pigs will require a larger supply of their outer sty food. Two great objects are thus accomplished: the young pigs, without privation to themselves, are gradually weaned, and the mother pig suffers the less from their appetite, increased with their growth. I have known in my own management of my sty, at Upton Grey, in Hampshire, a single fortnight to wean a large litter of pigs, both mother and little ones being in really splendid condition.

Let it be remembered that air, sunlight, cleanliness, are as congenial to properly kept pigs as to humans. Pigs thrive in muck, eh? Yes, and so do measles and foot-rot, neither of which would afflict the porcine family if the above brief directions be complied with; the troughs being of cleanly kept iron, and the sty having a Southern exposure.—W. T. H., *Practical Farmer.*

Though rapid growth is desirable in succulent vegetables, this is not the case with most flowering shrubs, which form bushy, and therefore handsomer plants when grown slowly.

Gas Tar for Posts and Timber.

That Gas Tar might be very beneficially used for preserving timber seems probable, yet we do not know that it has been applied to any considerable extent—probably from its not having been sufficiently tested, and from want of a knowledge of just how to use it.

A writer in the *American Agriculturist* gives an account of what seems to have been careful experiments carried through a period of fourteen years. Four pieces of timber were tried, both in and out of the ground: No. 1 received no tar at all; No. 2 was boiled for half an hour in coal tar; No. 3 was coated with hot coal tar with a brush; and No. 4 treated in the same way, and covered with a coat of sand. They were all buried in garden soil to the depth of four inches. At the end of nine years, No. 1, without tar, had rotted away and disappeared; No. 3, coated with tar, had rotted very much, but still retained its form; No. 2, boiled in tar, showed signs of decay; the one coated with tar and sand was still sound. At the end of thirteen years, while the others were all decayed, the one coated with tar and sand was, to all appearances, as sound as when put there.

The same preparation was made of pieces of wood, which were afterwards exposed on the roof of an out-building. At the end of thirteen years the one without tar had rotted and blown away; a portion of the one coated with tar still remained, but rotting rapidly; the one boiled in tar was slightly decayed; the one with tar and sand was perfectly sound.

The writer says: "From these and various other experiments I have made, I have come to the conclusion that, while coal tar may contain little by itself that will preserve timber from rotting, it may be so mixed and combined with other substances as to prevent moisture from penetrating the pores of the wood, thereby preventing or arresting decay."

For a convenient method of making the application to posts, we give the following from the *Country Gentleman*:

"We have often had occasion to recommend the use of gas tar as a protection from moisture and decay. We have known an instance where acrid substances induced the complete rotting of pine boards in less than two years; when replaced with new boards, thoroughly coated with hot gas tar, they lasted fifteen years, and appeared then to be perfectly sound. The last No. of the *Horticulturist* gives a communication from Mrs. Shimer, of Carroll County, Illinois, who describes an excellent contrivance for applying gas

tar to posts. She had previously used a brush, but found this mode too imperfect and inefficient. A tank was made of the best sheet iron, forty inches high, and over two feet in diameter. A grate of oak sticks covered the bottom inside, to support the posts and protect from accidental blows. This tank was set on an old cook stove placed out doors. It was then filled with posts placed on end, supported by a frame to prevent tipping the tank. It was filled with gas tar, a fire built in the stove, and the wood boiled in the tar until well saturated—the time not stated. We may add that the wood should be thoroughly seasoned before the application, in order that the tar may enter the pores. We have no doubt that, were this work well done, (the gas coating extending some inches above the earth,) that posts of white oak or other good timber would last at least fifty years, and perhaps considerably longer.

Raising Calves.

When fresh cows sell from forty to sixty dollars each, is it not time to consider whether it will not be good policy to raise some calves, especially if we have good stock to raise from? Last season I raised two, and this spring I have already started three more; I consider early spring the best time to start them, as grass comes, when they will require but little care until fall.

How I Start them.—A calf that I am going to raise I never let suck the cow; it is much easier to learn it to drink before than after. I have had them drink alone, without the aid of the finger, before they were twelve hours old; and, after the second day have but little trouble with them, as they drink freely if they are in good health; beside, the great advantage is, when they are turned with the cows they never trouble them; neither have I to put straps around the nose with long nails in, to prevent their sucking, as *they know nothing about it*.

What I feed them.—The first two weeks I give them milk drawn from the mother of the calf; after that the cud comes, then I give them a little cake-meal, bran and salt, mixed with water, about milk-warm. It is better to scald the meal and let it soak twelve hours before feeding. If any is left, feed it to something else, and make fresh for the calves every time, as it will sour. About this time they will eat a little hay—clover is best; as soon as there is grass enough for them to get a bite, I turn them out, and I soon slack off their feed.

A small enclosure, with water and shade, is the most suitable, where horses or cows are not permitted to run.—*Germantown Telegraph*.

Sunday Reading.

God communicates Himself with great variety to His saints, now in this ordinance, and now in that, on purpose that He may keep up the esteem of all in our hearts. Take heed, therefore, Christian, thou neglectest any one duty. How knowest thou, but that is the door, at which Christ stands, waiting to enter into thy soul?

God's commandments hang together; they are knit and woven together, like a fine web, wherein you cannot loosen a single stitch without danger of unraveling the whole. If a man lives in the breach of any one of God's commandments, if he allows himself to indulge in any one sin, none can tell where he will stop. There is no letting any one devil into our souls, without the risk of his going and fetching "seven other devils, wickeder than himself;" and the purer the house may hitherto have been, the more eager will they be to come and lodge in it.

It is noted by the Psalmist, as a wonder of God's mercy, that "He maketh the barren woman to keep house, and to be a joyful mother of children." It is a pity he was ever born, that holds not children a blessing; yet not simple and absolute, but according as it may prove. She hath a double favor from God, that is "a joyful mother of children;"—Many a one breeds her sorrow, breeds her death.

The Lord does not delay, as if He were unwilling to bestow; but that His gifts might increase in their value with the increase of our desires.

A Christian congregation calling upon God, with one heart and one voice, and in one reverend and humble posture, looks as beautiful as "Jerusalem, which is at peace with itself."

Of these sweet ingredient perfumes, (Petition, Confession, and Thanksgiving,) is the incense of prayer composed, and by the Divine fire of love it ascends unto God, the heart and all with it; and when the hearts of the saints unite in joint prayer, the pillar of sweet smoke goes up the greater and fuller.

The holy angels of God are the observers of our *prayers* and good actions on earth, and the relaters and remembrancers of them in heaven. Not but the All-seeing God of Himself knows and takes notice of all the good actions of men, and records them to perpetuity in the most faithful register of His Omnipotence; but He would have His holy angels to be conscious of our good actions, not only that they might congratulate our happiness, as fellow-servants and members

with us under Christ, their and our Lord and Head, but also and especially, that they might be the witnesses of His righteous judgment at the last day, when His Son shall come in His Glory, with millions of His holy angels, to judge the world.

As if abstinence attracted that invisible influence, and God loved to converse more with persons, that are enemies to pampering of their bodies, than with those that delight in corporal food, and choicer diet. Indeed, the more the body is cherished, the more sleepy will the soul be; and the less it is cockered and pleased, the more active will the spirit be; and I think I may lay it down, as a maxim, that the greatest revelations and inspirations have been most vouchsafed to men that have been most given to abstinence.

The smallest rule we lay ourselves under a necessity of observing, is of great benefit, as it teaches us some part of the government of ourselves, as it keeps up tenderness of mind, as it presents God often to our thoughts, and brings a sense of our religion into the ordinary actions of our common life.

Let us beware of that proud philosophy which affects to inculcate philanthropy, while it denounces every home-born feeling, by which it is produced and nurtured. The paternal and filial duties discipline the heart, and prepare it for the love of all mankind. The intensity of private attachment encourages, not prevents, universal benevolence. The nearer we approach the sun, the more intense his heat; yet what corner of the system does he not cheer and vivify?

According to the proverb of the Jews, "Michael flies with but one wing, and Gabriel with two." God is quick in sending angels of peace, and they fly apace; but the messengers of wrath come slowly; God is more hasty to glorify His servants, than to condemn the wicked.

He must be more stupid and senseless than a stock or stone, whose sloth and carelessness in his duty, *torporem et osculantiam*, is not shaken off by this one consideration, that the government of the Church is the theatre of God and angels.

In the hearing of mysteries, keep thy tongue quiet. Five words cost Zacharias forty weeks silence. In such heights convert thy questions into wonders; and let this suffice thee—the reason of the deed is the power of the doer.

Because men desire to be more great than humble, they are suffered to become vain in their imaginations.

We extract the following from the last annual report (for 1865) of the Baltimore Board of Trade :

"In presenting this, the Sixteenth Annual Report of the Board of Trade of the City of Baltimore, it is fitting that we offer thanks to the Divine Ruler of the Universe, for the return of peace to our torn and lacerated country, as well as to invoke a continuance of His favors, until strife and the spirit of passion shall no more be known in the land; and that henceforth we may dwell together, as did our fathers, dispensing justice to all.

"Commerce, with its healing wings, has been outstretched everywhere, and our city has apparently awakened, as from a deep slumber, resolved to be no laggard in the race for the golden prize.

"Since the return of peace, numerous steamship lines have been organized and put in successful operation.

"We have, through the commendable enterprise of the executive department of the Baltimore and Ohio Railroad, a regular semi-monthly line of good and substantial steamers plying to Liverpool; which, with the support and encouragement of our merchants and importers, cannot fail to add largely to the general interest and prosperity of our city. This is, now, the only American line of steamers to Europe, and this fact, alone, should enhance the interest of our citizens.

"The Havana New Orleans Line, more recently organized, is equally worthy of commendation to its projectors, and, we believe, there is every encouragement for its complete success, under the energetic management of those in charge of the enterprise.

"To Southern ports we have numerous lines established—such as to Savannah, Ga.; Charleston, S. C.; Wilmington, N. C.; Richmond and Norfolk, Virginia. Others, much needed, are contemplated; but no further organizations have been perfected. It is all-important that every facility should be afforded to accommodate the growing trade with the South. Our merchants have superior claims, over those of other cities, for a large increase of the Southern trade—geographically nearer, and with an outlet for its productions, both by sea and rail, together with an alliance of sympathy and feeling, and with more moderate charges, generally, for the handling of merchandise and produce, than is experienced elsewhere. In return, we claim it as our natural field for distributing our dry goods, both imported and domestic; our bacon, corn, flour, &c., as well as our manufactured articles, in many of which our city excels, especially such as relate to agriculture, steam machinery, house furnishing goods, furniture, and the like. And, whilst we enumerate these urgent claims for Southern trade, we are not unmindful that we have equally striking advantages, by reason of the same geographical position and our great railway system, which, stretching forth North and West, with innumerable connections, brings our city nearer, by several hundred miles, to all the leading Western markets and distributing points, than any other city on the seaboard; and there is no reason why a large increase of trade, by the interchange of commodities, may not be anticipated from this vast field; and it was for this that our great railway system was first inaugurated, and

to it the prosperity and wealth of Baltimore is chiefly due. We may well felicitate ourselves, then, in thus contemplating these great highways of our city's enterprise, and we should regard with gratification the promised extension, in lateral roads, whenever the wants of the trade demonstrate them as feasible and practicable."

•••

The Tournament and Fair in Prince George's County, Md.

The fair and festival held by the ladies of the Forest, Prince George's county, Md., on the 29th and 30th of May, at Elverton Hall, for the benefit of the destitute people of the South, was a decided success. It was the intention of the managers to open the fair by a tournament on Tuesday, but owing to the inclemency of the weather, it was postponed to the following day. The following "knights" entered the lists :

Knight of Misfortune, H. B. B. Bowie; Knight of Ivanhoe, George N. Walker; Knight of Desdeardo, Wm. I. Berry, Jr.; Knight of St. Mary's, J. Frank Smith; Knight of the Lost Cause, W. A. Jarboe, Jr.; Knight of Spaldings, T. Semmes Tolson; Knight of Marlborough, A. T. Brooke; Knight of the Branch, Norman Hill; Knight in Grey, Francis Jenkins; Knight of Northampton, Albert Andrews; Knight of the Forest, William Roberts; Knight of P. George's, Upton Brooke.

Col. Odin Bowie was the chief marshal, and W. W. Bowie, Esq., delivered the opening address.

Two tilts were allowed each. At the end of which trial there was a tie between the Knight of St. Mary's and the Knight of the Lost Cause, when the contest was continued between them for three tilts more, which resulted in the Knight of St. Mary's being declared victor, and entitled to crown the Queen of Love and Beauty. The Knight of the Lost Cause, as second in the day's tourney, was declared by the judges entitled to crown the first Maid of Honor; the Knight of Marlborough the second Maid of Honor, and the Knight of Misfortune the third Maid of Honor.

The Knight of St. Mary's crowned Miss Maggie H. Bowie, of Vansville district, as Queen of Love and Beauty; the Knight of the Lost Cause crowned Miss Alice M. Hopkins, of Washington, D. C., as the first Maid of Honor; the Knight of Marlborough crowned Miss Alice Harper, of Marlborough, second Maid of Honor; and the Knight of Misfortune crowned Miss Rose Beall, of Marlborough district, as third Maid of Honor.

On Wednesday night there was a grand ball at Elverton Hall; previous to the inauguration of which Mr. George C. Merrick, orator of the occasion, delivered a very eloquent address. It is expected that about \$3,000 will be realized by the efforts of the ladies of Prince George's county, for the destitute people of the South.

Hale's Early Peaches.

We have received from the grower a sample of very early peach, and think the matter sufficiently worthy of attention to publish the following letter in relation thereto:

HIGHTSTOWN, N. J., June 5, 1866.

Messrs. WORLINGTON & LEWIS:

Gentlemen: I send you by Adams' Express, a small box of Hale's Early Peaches, raised in my orchard house. This is a comparatively new variety, but is already creating a great sensation in the pomological world, on account of its earliness. I have fruited it for the last four years in the orchard house, and also out of door, and find it all of two weeks earlier than the Troths, which has been heretofore the earliest market variety. In point of growth and hardness, it compares favorably with the standard market varieties.—The past winter, in New Jersey, was unusually severe with peaches. The Hales is the only variety in this section that escaped even with a few blossoms.

In the August number of the "Horticulturist," of 1863, there is an engraving of the Hales, with some remarks of mine concerning it. I then stated that it was from six to ten days earlier than the Troths. As it was then an entirely new variety, I wished to be perfectly safe in my statements. A longer experience with the peach, has convinced me that I was under the mark as to its relative time of ripening.

The Hales promises to be a valuable acquisition to the list of peaches, as it lengthens the peach season two weeks. Yours truly,

ISAAC PULLEN.

The Dove.

The form and manners of this bird so nearly resemble those of a pigeon, that a particular account of her is unnecessary. They are only different species of the same family, and exhibit the same general character, although they differ in some particulars. The voice of the turtle is hoarse and plaintive, and heard frequently in the woods. It is pleasing to the ear of the husbandman, and to the lover of nature, because it announces the arrival of spring, so dear to the tenants of the forest. The sacred writers occasionally refer to the dove. "Rise up, my fair one, and come away; for lo, the winter is past; the rain is over and gone; the flowers appear on the earth; the time of the singing of birds is come, and the voice of the turtle heard in our land." The turtle dove never admits of a second mate, but lingers out her life in sorrowful widowhood. To this remarkable circumstance, these words of David

are thought by many to refer: "O deliver not the soul of thy turtle dove into the multitude of the wicked; forget not the congregation of thy poor forever." As the turtle cleaves to her mate with unshaken fidelity, so these interpreters say, Israel adhered to their God.

The dove is a harmless and simple creature, equally destitute of skill and courage for combat, and smallest of the family. She is the most proper emblem of the national imbecility into which the people of Israel had sunk, in consequence of the numerous iniquities with which they had long provoked the God of their fathers.

J. JACOB BOWER.

The Culture of Fish in England.

A writer in the *London Field*, in treating the subject of the culture of fish at Stromontfield, a fish-breeding establishment in England, on the River Tay, gives the following details in relation to the capacity of the establishment and of the breeding process. "The establishment of Stromontfield, with 300,000 ova each, has increased the rental of the Tay 10 per cent. Before the experiment, the annual average take of salmon and grilse was 70,000; it is now 80,000, and is still on the increase; 10,000 fish—the increase—are worth £3,000. But when we come to consider the very small number of fish from which this great increase is derived, the result can be considered nothing short of wonderful. The number allowed to escape for reproduction in the Tay is 40,000. Of these, only about 25 females are required to stock the Stromontfield breeding boxes; a proportion so small, that were they destroyed, or even ten times their number, they would not be missed. It must, indeed, be a small salmon river in which you cannot capture 25 females salmon; and these, if properly managed, can be made to produce 10,000. This gives us some idea of the dormant wealth of our salmon fisheries. I am aware that there are many difficulties in the way, but these may be overcome when the subject comes to be thoroughly ventilated and understood. It is erroneously supposed that the great destruction of frey takes place in the sea; the destruction which takes place there is undoubtedly great—perhaps 90 to 95 per cent. of the smelts which are bred in the river; but this is as nothing when compared with that which takes place in the river, where from each thousand ova, not more than ten *fry* are reared to the migrating stage. By cultivation, 500 smelts can be raised from 1,000 ova. A salmon of 10 lb. weight produces in its wild and uncultivated state, five grilse or salmon; in its domestic or cultivated stage it will produce 200 to 250.

Wholesale Produce Market.

Prepared for the American Farmer by KILCOTT & HEWES, Produce and Commission Merchants, 67 Exchange Place.

BALTIMORE, June 12, 1866.

BUTTER.—Ohio, in brls. and kegs, solid packed, 25 cts.; Roll, 28; Virginia and Pennsylvania in kegs and tubs, 26 to 28; Glades, 35; Goshen, 40.

BEESWAX.—42 cts.

CHESN.—Eastern, 22; Western, 18 to 20.

DRIED FRUIT.—Apples, 14 to 16 cents, and Peaches, 16 to 22 cents per pound.

Eggs.—In barrels, 24 cents per dozen.

FEATHERS.—95 cents for good Southern.

LARD.—Bris 22, kegs 23, jars and other country packages 25 cents.

TALLOW.—12 cents.

Baltimore Markets, June 12.

ASHES.—Pot, \$7.50a\$7.75; Pearl, \$15 per 100 lbs.

COPPER.—Rio, 16 to 20 $\frac{1}{2}$ cts. gold, according to quality.

Laguanra and Java—no sales reported.

COTTON.—We quote prices as follows, viz:

Grades.	Upland. Orleans.
Ordinary.....	32 33
Good do.....	34 35
Low Middling.....	36 37
Middling.....	38 40

Prices were maintained under the enhanced premium on gold last week, although European advices continue discouraging for shipment.

FERTILIZERS.—Peruvian Guano, \$100 pr ton; Patapaco Company's Soluble, \$63; Rhodes' Standard Manure, \$55 (bbls.), \$57.50 (bags); Baugh's Rawbone S. Phosphate, \$55; Dissolved Bone, \$55; Fine Ground do., \$45; Plaster, \$18. The ton of 2,000 lbs.

FISH.—Mackerel.—No. 1, \$19.50a20; No. 2, \$18a18.50; large new, No. 3, \$16a16.50. Herrings—Shore (split), \$5a6; Labrador, \$5a8; Potomac and Susqueh'a, \$7.50a8. Codfish, new, \$4a4.50.

FOULS.—Howard Street Super and Cut Extra, \$10 25a \$10.50; Family, \$14.50a15.50; City Mills Super, \$9.50a 9.75; Baltimore Family, \$17.50.

Rye Flour and Corn Meal.—Rye Flour, new, \$0.25a 6.50. Corn Meal, \$4.50a4.75.

GRAIN.—The general tenor of the advices indicate a short supply of Wheat.

Wheat.—Inferior to fair Red, \$2 50a2.75; prime to choice Maryland, \$3a3.07. White, \$3.25a3.50 per bushel.

Corn.—White, 96a8c. for good; prime, \$1. Yellow, 87a9c. per bushel. Market active.

Rye.—Small offerings. Held at \$1 10 per bushel for prime Maryland.

Oats—Heavy to light—ranging as to character from 70 a77c. per bushel.

HAY AND STRAW.—Good supply. Timothy \$19a20, and Rye Straw \$20 per ton.

MILL FEED.—Brownstuffs, 27a28c.; Middlings, light, 43 a45c.; heavy, 45a46c.

PEAS AND BEANS.—Scarce. Last sale prime New York State at \$1.86a1.90 per bushel.

POTATOES.—In good supply. From vessel's side, \$1.40 a1.45, for Maine and Peach Blows.

PROVISIONS.—Bacon.—Shoulders, 15a15 $\frac{1}{2}$ c.; Sides, 18 a18 $\frac{1}{2}$ c.; Hams, plain bagged, 23c.; sugar cured, 24a25c. per lb. Bulk Meat.—Shoulders, 14c.; Sides, 17 $\frac{1}{2}$ c.

SALT.—Ground Alum, \$1.90a2; Marshall & Worthington's Fine, \$3.25; Turk's Island, 58a60c. per bus. Rock, \$22a35 per ton.

SEEDS.—Clover, held at \$6a6.50; Timothy, \$4.25a4.50; Flaxseed, \$3.

TOBACCO.—Receipts continue good of both Maryland and Ohio Leaf, but the market is unsettled, owing to the political and financial troubles in Europe. We give the range of prices as follows:

	Maryland.
Frosted to common.....	\$2.50a 4.00
Sound common.....	4.50a 6.00
Middling.....	6.50a 8.50
Good to fine brown.....	10.00a15.00
Fancy.....	17.00a25.00
Upper country.....	3.00a30.00
Ground leaves, new	3.00a12.00

	Ohio.
Inferior to good common.....	5.00a 8.00
Brown and spangled.....	9.00a12.50
Good and fine red and spangled.....	14.00a17.00
Fine yellow and fancy.....	20.00a30.00

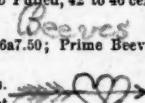
WHISKEY.—\$2.30a2.32 per gallon, in barrels.

WOOL.—Demand very good, and prices are better. We quote: Unwashed, 30 to 35c. per lb.; Tubwashed, 45 to 60 cts.; Fleece, common, 40 to 43 cents; Fine, 43 to 48 cents; Fullled, No. 1, 32 to 38 cts.; Merino Pulled, 42 to 46 cents per lb.

CATTLE MARKET.—Common, \$6a7.50; Prime Beeves, \$8a9 per 100 lbs.

* Sheep—5a6 $\frac{1}{2}$ cents per lb. gross.

Hogs—\$13.25a14 per 100 lbs., net.

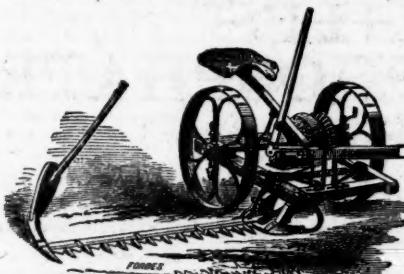


CONTENTS OF THE JULY NO.

The Old Farmer to its Old Friends.....	1
The American Farmer.....	2
To Keep Milk Sweet.....	3
The Vegetable Garden.....	4
The Fruit Garden.....	5
The Flower Garden	6
Foot Rot in Sheep	6
Vanilla, &c.....	6
Scalded Meal.....	7
Visiting Farmers.....	7
Care of Cows	7
Surface Manuring.....	8
Flax Culture	11
Cruelty to Animals.....	13
Remedy for Scour in Lambs.....	13
Reconstruction	14
Lice on Cattle, &c.....	15
Top-Dressing Lawns and Meadows.....	15
Habits of Sheep	16
Mulching Fruit and Ornamental Trees.....	16
Chloride of Lime for Vermin	16
Rinderpest	17
How the Government Teaches Tobacco Growing.....	18
What the Government Teaches of the "Destruction of Soils"	19
Cats and Clover.....	21
Fruit Cultivation	21
The Friends of the Farmer	22
Correspondents, &c.....	22
Southern Correspondence	22
Cultivation and Manure as Fertilizing Agents	24
Cream Cheese.....	26
Sandy Lands and their Improvement	27
Horse-Breeding	28
Winter Feeding Cattle for Beef	29
Cattle for Feeding	29
Use of Mules	30
Management of Young Pigs	31
Gas Tar for Posts and Timber	32
Raising Calves	32
Sunday Reading	33
Extract from Report of Board of Trade	34
Tournament in Prince George's County	34
Hale's Early Peach	35
The Dove	35
The Culture of Fish in England	35
Markets and Table of Contents	36

“MONITOR” REAPER AND MOWER FOR 1866.

The principal points in the construction of the “MONITOR” REAPER AND MOWER, to which we would call the attention of Farmers, are—



the *finger bar*, adjustable to cut any required height.

7th. A Perfect Raising Apparatus, entirely under the control of the driver.

8th. It is instantly thrown into or out of gear by the hand or foot.

9th. The Reaper is easily attached, and in every way adjustable to cut high or low.

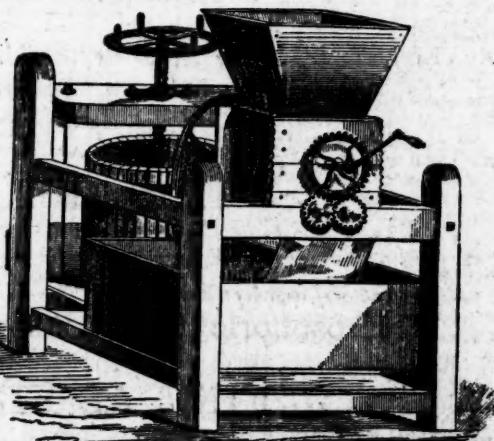
In short, the Monitor embraces all the points necessary to constitute a *perfect Mower* in every particular, besides being as good a *Reaper* as the best. The unprecedented sales it has met with, even in places where other so-called standard machines have been long and favorably known, clearly show not only its utility, but superiority. The preference it has taken at every trial with other machines, for being the *lightest of draft*, and the simplicity of its construction, its durability and easy management, as well as good work under all circumstances, command it to the notice of every farmer. It is fully warranted to give satisfaction in every particular.

A list of the names of farmers who have used the “Monitor” in Maryland and Virginia last season, will be published in a short time.

R. SINCLAIR & CO., BALTIMORE.

Scully's Patent Portable Cider and Wine Mill and Press Combined.

We would respectfully invite the attention of farmers, merchants and others interested in the manufacture of Cider and Wine, to the superior merits of the above named machine. It possesses great advantages over the old, and even modern “Massiv” Mills, so long in use, and needs only a trial to satisfy any one that it will perform all that it is recommended to do.



The above cut is a fair representation of the Mill, with the exception that we will use two tubs this season instead of one, as heretofore.

We will also make two sizes. One size for hand and a large size for both hand and power. For further particulars, send for a Circular. Manufactured and for sale by

R. SINCLAIR & CO.,

58, 60 and 62 Light street, Baltimore.

The trade supplied on liberal terms.

July

THE GREAT BONE FERTILIZER FOR SOUTHERN LANDS.

BAUGH'S RAWBONE PHOSPHATE

Containing { 53 per cent. PHOSPHATE OF LIME.
{ 4.05 per cent. AMMONIA.

It should be borne in mind that the *Phosphate of Lime* in this article, being obtained exclusively from *Raw Bones and a true Bird Guano*, there is no portion of it inoperative, as in the case of Super-Phosphates made from *Mineral Guanos*, but, being entirely soluble in the soil, continues to impart its fertilizing qualities to the crops for years.

It is guaranteed to be more beneficial to the soil than *Peruvian Guano*, for while it has sufficient Ammonia to push forward the crop, it has no excess of it, as *Peruvian Guano* has, and therefore does not over-stimulate the land, but continues to impart its fertilizing qualities for years.

The remarkable success which has attended its use in Maryland, and parts of Virginia, is a sufficient guarantee to induce those who have not tried it, to do so.

My price in Baltimore is uniform with the manufacturer's prices—and it can be obtained at the same price, adding costs of transportation from Baltimore, from dealers throughout the Southern States.

GEORGE DUGDALE, Manufacturer's Agent,

July-6m

105 Smith's wharf, Baltimore, Md.

Rodunda Island Guano.

A VERY VALUABLE AND RECENTLY DISCOVERED GUANO DEPOSIT ON THE ISLAND OF RODUNDA, IN THE CARRIBEAN SEA.

THIS GUANO.

Has been used for many years by planters on the adjacent islands of ANTIGUA, BARRADOES, and others, for the cultivation of Sugar Cane and Cereals, and has been found equal to Peruvian Guano in its effects.

It contains a very large per centage of

Phosphoric Acid, Ammonia and Salts.

It is of a dark brown texture, and as

FINE AS FLOUR,

without any traces of stone, roots, or foreign matter; is a pure and original GUANO, easy to be used, and wonderful in its effects.

The very low price at which this Guano can be sold, places it within the reach of every farmer and planter, and avoids the risk of large loss, frequently incurred in the purchase of "high priced" fertilizers. For sale by

WM. CRICHTON & SON,

Sole Agents for the United States,

BALTIMORE

July

THE BALTIMORE CITY
Fertilizing Manufacturing Company

Have entered into contract with the city of Baltimore for the
REMOVAL OF ALL
NIGHT SOIL, DEAD STOCK & REFUSE MATTER,

And will be prepared in a short time to furnish Farmers and
Gardeners with

Superior Fertilizers,

At LOW PRICES; also,

GROUND BONES,
IN QUANTITIES TO SUIT.

Further particulars will be given in a future advertisement.

JOS. J. STEWART, President.

Wm. H. KIMBERLY, Treasurer.

July

EXAMINE THE BRAND.



FOR SALE BY DEALERS GENERALLY
Throughout the Country.

Entered according to Act of Congress, in the year 1866 by Allen & Needles, in the Clerk's Office of the District Court of the United States, in and for the Eastern District of Pennsylvania.]

July, Aug, Sep.

WILLIAM WILKENS. H. H. GRAUE.
WILLIAM WILKENS & CO.,
STEAM
Curled Hair and Bristle
Manufacturers.

DEALERS IN
HAIR-CLOTH, DAMASK, PLUSH AND UP-
HOLSTERERS AND CABINET AND
COACHMAKER'S MATERIALS
IN GENERAL.

Corner of Pratt and Charles sts., Baltimore,
and 217 Pearl st., New York.
The highest price paid for HOG HAIR, HORSE
and CATTLE TAILS.

Fresh Turnip Seeds.

By Mail—Post Paid.

The following varieties—the very best in cultivation—will be sent to any address by mail, prepaid, or by express. Seed and Nursery Catalogues will be sent gratis to order. Wholesale Catalogues are now ready for the trade. Agents wanted.

Price, 10 cents per ounce; \$1 per pound.
Strap Leaf White Dutch, Fall and Winter; Redtop Strap Leaf, Fall and Winter; Orange Jelly or Golden Ball, Winter; Long White French or Hanover, Winter; Skirving's Imp'd Ruta Baga, Winter; German Teitow, Winter; New White Sweet German, the finest late keeper and the best table turnip in cultivation.

Also, Beet, Cabbage, Carrot, Onion, Parsnip, and all other Seeds, in small or large quantities.

B. M. WATSON,
Old Colony Nurseries and Seed Establishment,
July Plymouth, Mass.

Improved Buckeye Sulky Corn Plough.



It is no longer a question whether a riding Corn Plough is a practical machine; the question now is, which is the best? that is, which does the best work? which is the most easily managed? which is the most durable? which is the most easily repaired? in short, which is the most practical?

This machine not only saves the labor of one man, but performs the work much better than the old way of ploughing with the single or "double shovel ploughs," and it enables the aged and infirm to raise a crop of corn, who would not be able to endure the labor of trudging after the plough in the old way.

There are a variety of good riding Corn Ploughs in use, but we claim for the Buckeye many important points superior to any Sulky Corn Plough now in use.

We would therefore invite the attention of all practical corn growers, and also dealers in implements, to some of its *leading features and advantages*.

The principle of ploughing the corn with this machine is that of the "double shovel," which is admitted by practical corn growers to be the best.

Crooked rows can be ploughed as well as *straight ones*.

It being so arranged that the operator can at will move at once all four of the shovels eleven inches either way without lifting them, and thus avoid tearing up the hills that are out of line. The movement is made with the feet upon the beams when the operator is riding, as shown in the cut; and by the lever "F" while the operator is walking.

The operator can either ride or walk and guide the machine without any alteration.

A greater or less width is obtained by changing the bolt in one end of the rod that connects the swinging bars "GG."

The shovels can be instantly raised out of the ground for the purpose of turning at the ends, and clearing the ploughs of trash, and in passing from field to field, by means of the crank "C."

The plough is provided with shields, to protect the corn from being covered while small and tender. These shields can be taken off when the corn becomes larger.

R. SINCLAIR & CO.,

Agents for Maryland and the Southern States.

July

FOR THE HARVEST OF 1866.

The undersigned have on hand in large quantities—

Maryland Self-discharging Horse Wheel Rake, the best in use,

The most approved patterns both for GRAIN and GRASS.

Revolving Hay Rakes, Wheat Gleaners, Grain Cradles, Grass Scythes, Grass Snathes, Hand Rakes, Horse Powers, Thrashers and Cleaners, Thrashers and Straw Carriers.

Sugar Cane Mills and Evaporators, with and without *Portable Furnace*.

SELF-RAKE REAPERS.

Amongst which we would name, as one of the best, the NEW YORK SELF-RAKE, which we guarantee to give entire satisfaction.

STRAW-CUTTERS, our own celebrated patterns.

CORN-SHELLERS, for hand and *horse power*.

PATENT WATER DRAWERS, which are considered far superior to the Stock Pumps, for general use, at one-third the cost.

PLANTATION GRIST MILLS, all sizes.

For particulars, send for a Catalogue.

R. SINCLAIR & CO.,

62 LIGHT STREET, BALTIMORE, MD.

July

FARMERS AND PLANTERS' BUSINESS AGENCY.

EDWIN A. LEWIS, PROPRIETOR.

FOR THE PURCHASE OF
Guanoes, Super-Phosphates, Bone Dust and Other
Fertilizers, Machinery, Farm Implements,
Fruit Trees, Seeds, Cattle and Stock
of all Kinds.

The undersigned will, in addition to his own judgment, have the benefit of the experience of the proprietors of "The American Farmer," both of whom are practical agriculturists, and whose familiarity with the Baltimore market, will enable them to give the best advice, derived from experience.

Having no personal interest whatever in any FERTILIZER, MACHINE, OR IMPLEMENT, he is enabled to make unbiased selection, and will purchase from such sources only as are believed to be entirely reliable.

PERUVIAN GUANO,

AS THE BEST GUARANTEE FOR ITS PURITY, WILL BE SHIPPED
DIRECTLY FROM THE AGENCY'S WAREHOUSE.

*My arrangements with Manufacturers and Dealers, are such that I can furnish any article of
Fertilizers, Implements, or Trees,*

  Without Charge of Commission to the Purchaser.

  Purchases made for cash only, and orders accompanied by a remittance
promptly and faithfully attended to.

ADDRESS:

EDWIN A. LEWIS,

Care of "American Farmer" Office,

No. 52 South Gay Street,

BALTIMORE.

AMERICAN FARMER—ADVERTISER.

THE NATIONAL EXPRESS & TRANSPORTATION COMPANY

Is now prepared to carry
MONEY AND VALUABLE PACKAGES

To and from New York, St. Louis, and intermediate points, and as far South as Atlanta, Georgia.
In order to afford the most ample security to shippers, it has effected

INSURANCE OF \$500,000

on the money chests of the Company by each train, with several leading Insurance Companies,
Such as the Sun, Security, Manhattan, Metropolitan, and Phoenix,
whose aggregate capital and assets amount to

\$15,000,000.

Shippers are thus secured against common carriers' risk, and a security is afforded never before offered by any Express Company. For this

No additional charge is made.

The National Express and Transportation Company

Is now prepared to do business as
CHEAPLY, EFFICIENTLY AND SECURELY,
as can be done by any other Company.

J. E. JOHNSTON, PRESIDENT.

B. F. FICKLIN, General Superintendent.

July

DE BOW'S REVIEW.

OLD SERIES BEGUN JANUARY, 1846,—CLOSED APRIL, 1862.* NEW SERIES
COMMENCED JANUARY, 1866.

Terms—**86 Per Annum, in Advance; Single Copies, 50 Cents.**
CLUB RATES—2 COPIES, \$11; 3 COPIES, \$15; 5 COPIES, \$20.

J. D. B. DE BOW, EDITOR AND PROPRIETOR, Nashville, Tenn.

All matters relating to the EDITORIAL will be addressed to NASHVILLE, where the accounts of subscribers in States South of Maryland, Ohio and Missouri, will be kept, and where subscriptions for those States will be received.

All other accounts including the Northern and Western States, California and Foreign Countries, will be in charge of B. F. DE BOW, Assistant Editor, 40 Broadway, New York.

The offices at New York and Nashville will execute orders for any articles, at manufacturers' prices, required by the South, whether advertised in the REVIEW or not, charging a moderate commission for the service, on receipt of necessary funds.

LOCAL AGENTS.—Philadelphia, W. B. Zeiber and S. E. Cohen; Baltimore, Taylor & Co.; Richmond, Bidgood & Riley; Savannah, W. B. Cooper; Mobile, S. H. Goetzl; Memphis, Geo. Patterson; Louisville, J. P. Morton & Co.; Cincinnati, R. Clark & Co.; Chicago, J. R. Walsh & Co.; San Francisco, J. W. Sullivan, White & Bauer. SPECIAL AGENT.—Joseph W. Ainger.

Orders will be executed, where practicable, for any of the numbers or volumes of the REVIEW, of the Old or New Series, or for De Bow's INDUSTRIAL RESOURCES, 3 vols. \$10, which condensed much of the most valuable material.

*A fair price will be paid for the following numbers of the REVIEW, or the new issue will be exchanged for them—1855, Aug.; 1858, April and Oct.; 1859, Jan. and July; 1861, all numbers; 1862, all numbers; 1864, ditto.

POSTMASTERS will please act as agents in making clubs, remitting, and in promptly reporting all numbers not taken from office. They will be furnished copies for sale at liberal discount.

SUBSCRIBERS will please remit promptly. The credit system will be impracticable, since the cost of publication is more than double, and the subscription price is virtually unchanged. Those long indebted to us will please adjust accounts on the most liberal basis possible. Remit in drafts, checks, orders on merchants, current notes, by mail or through postmasters at money offices. Payment will be acknowledged and noted on cover in July, and regularly each month thereafter. Subscribers will require agents to show their credentials.

Advertisements of land for sale, inserted on moderate terms, and to the amount remitted.

Articles are solicited upon all subjects germane to the REVIEW, especially in regard to the Labor System and Resources of the South.

July

*Two other copies were published at irregular periods during the war.

Th

This is a C
terhood of the
Episcopal Church,
It aims to sup
Christian principles, w
hand.

The next Scholastic Year
12th, 1866.

The Sisters can receive ten P
number is limited, early application s
to secure places for their children.

TERMS:—\$300 for the Scholastic Year
Circulars may be obtained from, and a

Ci

Rector of St.
SISTER CATHARINE, S.
No. 2 Waverly Terrace,

july

SOUTHERN LAND EMIGRAT PRODUCE COMPANY,

No. 71 BROADWAY, NEW YORK,

(Near Wall Street.)

W. H. QUINCY, (late of South Carolina,) SECRETARY.

ORGANIZED FOR THE PURPOSE OF INTRODUCING CAPITAL, MECHANICAL SKIL
EMIGRATION, AND LABOR-SAVING MACHINERY INTO
THE SOUTHERN STATES.

Stationary and Portable Engines, Saw and Grist Mills, Cotton Gins and Presses, Turpentine
and Whiskey Distilleries, Agricultural Implements, Sashes, Blinds, Doors, and other Building Ma
terials and Labor-Saving Machinery of all kinds, furnished at Manufacturers' Prices.

Consignments of Cotton, Turpentine and all other Southern Products solicited.

White Labor (Germans, &c.) supplied.

Southern Lands sold, leased and exchanged.

Particular attention paid to the sale of State and Railroad Bonds and all other Southern Secu
rities.

Address

W. H. QUINCY, Secretary,
71 Broadway, New York.

REF ERENC E S:

Governor R. E. Fenton, New York.

Governor F. Pierpont, Virginia.

Ex-Governor John Letcher, Virginia.

G. W. Riggs, Banker, Washington, D. C.

Messrs. Wilson, Gilson & Co., Bankers, N. Y.

Ed. Haight, Pres. Bank Commonwealth, N. Y.

Hy. Stokes, Pres. Manhattan Life Ins. Co., N.Y.

Messrs. W. T. Walters & Co., Baltimore, Md.

Messrs. Thomas & Co., Bankers, Baltimore, Md.

Col. Wm. L. Johnson, President Charlotte and

Columbia Railroad.

Gen. John Bratton, Unionville, S. C.

Rufus Johnston, Pres. Exchange Bank, Columbia

S. C.

july

L,
REET,

RED TO

try Property,

on the most favorable terms.

having Property to Insure,

specifically invited to communicate with him by letter, giving full and accurate description of property.

He will also, if requested, forward blank applications for

Life Insurance,

In a first class company, for which he is a General Agent.

Refers to the Editors of "The American Farmer," and others, if necessary. July

J. C.
C. M.
Minne-
and Rev.
Dr. Pierce,
Rev. A. A.
A. Hines, Mem-
co Female Insti-
Wade Hampton,
New Orleans; T. A.
July

WASHING MACHINE



Combines large capacity, great strength, and entire ease and simplicity of operation.

It saves two-thirds the time and labor, and half the soap required in washing by hand; and FIVE YEARS' experience proves it to be the ONLY Washing Machine made which stands the test of time and use.

It is geared to give six strokes of the plungers for one turn of the handle—or, when working leisurely, about four hundred strokes a minute; thus enabling a boy or girl of fifteen years to do a week's washing for a family of six or eight persons, in from two to three hour's time; and being a *squeezing machine*, it is guaranteed not to injure the finest fabrics.

Dealers supplied. Send for descriptive circular to

OAKLEY & KEATING,

184 Water street, New York.

Sold by

RICHARD CROMWELL,

No. 46 and 48 Light st., Baltimore.

Hightstown (N. J.) Nurseries.

120,000 Peach Trees,

Of all the leading market varieties, of which 40,000 are HALE'S EARLY—the earliest by two weeks, and hardiest of any known variety.

Also, APPLES,

PEARS, and

CHERRIES,

Both dwarf and standard.

PLUMS, APRICOTS, NECTARINES, &c.

A large stock of STRAWBERRIES, including Agriculturist, Wilson's Albany, Jucunda or 700; BLACKBERRIES, RASPBERRIES,—including the Philadelphia,—and other small fruits.

For Circulars, address

ISAAC PULLEN,

July, au, s, o, n, & f, '67 HIGHTSTOWN, N. J.

Halsted Bros. & Putnam.
Produce Commission Merchants,

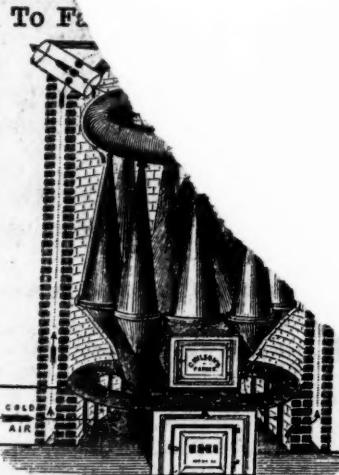
68 Pearl street, New York,

Receive and sell PRODUCE, of ALL kinds, on the most favorable terms.

We send our *Weekly Price Current*, to all consignors; also a marking plate, free of expense.

Send for them.

OUR MOTTO:
July "Quick sales and prompt returns."



We call the attention of Farmers and Planters to the celebrated

CHILSON FURNACE,

Brick and portable, for heating private residences, Churches, Court Houses, Halls, &c.; the

Metropolitan Cooking Range,

Elevated oven, combining all the requisites to a perfect Kitchen Range.

Particular attention is requested to our large and well selected stock of

Cooking Stoves,

For wood or coal, which for durability, economy in fuel, ease of management in all culinary purposes, are unsurpassed.

Feinour and Gas Burning Stoves,

For heating the rooms they are in and the chambers over them;

RADIATORS,

CYLINDER CHURCH, and

HALL STOVES,

FRANKLIN STOVES.

A large and splendid assortment of

AIR-TIGHT STOVES.

Orders from the country respectfully solicited. Persons ordering will please name the kind wanted, and we will send them as good an article as if purchasing in person.

J. WEATHERBY & SONS,
40 and 42 LIGHT STREET,
BALTIMORE.

[July]

R.

Hydrauli
bacco, Tob
Apparatus o
Pulleys and H

CHEMICALS, &c. Agricultural

NITRATE OF SODA,
SULPHATE OF SODA & S.
SULPHATE OF AMMONIA,
SAL-AMMONIAC,
POTASH, SODA-ASH,
CARBONATE OF AMMONIA,
OIL VITRIOL, &c., &c.

For sale, wholesale and retail, by

R. J. BAKER,
July 36 South Charles-st., Baltimore.

BONE DUST and POUDRETTE,

Warranted free from any mixture, having the Bone Dust in its natural or pure state. Fine or Stamped, by the bushel or ton.

POUDRETTE—A superior article and the cheapest Manufacture in the market, well adapted for Corn or any crop in the drill or hill.

REFERENCES: John W. Randolph and Worthington & Lewis, Baltimore; Thomas S. Mezeek and John Bidout, Annapolis; R. G. Browstor and J. Moull, N. Jersey. The above named practical farmers will testify to its merits.

FACTORY, Wilk street and Harris' Creek, Canton.

ORDERS left at the American Farmer office will be attended to. [July] THOS. BAYNES, Baltimore.

PURE CHESTER WHITE PIGS,

 Either singly or in pairs, (not akin,) will be sent by express to all parts of the United States. For circulars and prices address S. H. & J. F. DICKY,

July 31 Hopewell Cotton Works, Chester Co., Pa.

AK,

tilizer,

APEST MANURES

olic. It contains

portion—

ME,

ORIC ACID,

RE,

MURIATE OF SODIUM,

POTASH,

CARBONATE OF LIME,

And GYPSUM.

Factory, cor. 8th st. and Washington
July avenue, Philadelphia.

PIANOS AND MELODEONS.

NUNNS & CLARK's, and STEINWAY &
SONS'

GOLD MEDAL PIANO FORTES.

 The undersigned is constantly receiving new supplies of PIANOS from these celebrated factories, which are considered by competent judges to be in point of tone, touch, workmanship, durability, keeping in tune, and *not breaking strings*, superior to any made in the United States. He is constantly receiving the most unbounded expressions of satisfaction and delight from those who have purchased these instruments—in fact every Piano sent out from these warerooms has been the means of effecting other sales.

CHAS. BENTEEN,

No. 10 N. Charles street,
July and 80 W. Fayette st.

COTTON AND WOOL MACHINE CARD, COPPER-RIVETED LEATHER HOSE, AND COPPER-RIVETED Leather Band Factory.

All made of the very best quality Oak-Tanned Leather, and warranted equal to any made in the United States.

ON HAND,

A general assortment of articles used by Cotton and Woolen Manufacturers, Machine Shops, Locomotive Builders, Railroads, &c., &c.

JOHN H. HASKELL,

33 S. Eutaw st., Baltimore.

AND	
	162,476.48
	—
	20,120.54
	41,769.60
	100,586.34
	—
	162,476.48
EXPENDED :	
South Carolina.....	\$25,000.00
Carolina.....	15,000.00
Georgia.....	18,750.00
Alabama.....	16,250.00
Mississippi.....	13,000.00
Louisiana.....	18,750.00
Tennessee.....	7,500.00
Florida.....	12,500.00
Arkansas.....	5,000.00
Maryland.....	5,000.00
	10,000.00
	—
Expenses.....	\$146,750.00
	3,737.65
	—
	\$150,487.65

The balance on hand, and all moneys hereafter received, will be distributed *pro rata* among the different States.

By order of the Executive Committee,

Mrs. PEYTON HARRISON,

July

TREASURER.

DRY

HAMILTON E.

Invite the attention of persons to the large and splendid STOCK in their

NEW MARBLE BUILDING.

Nos. 199, 201 and 203 Baltimore.

Importing the greater portion of our stock one of the firm visiting the various European markets twice a year for that purpose—we are prepared to offer to WHOLESALE AND RETAIL PURCHASERS goods of the best class at very low prices, including

Black and Colored Silks AND

ROBES, Fine Dress Goods

OF EVERY FABRIC,
Low and Medium Priced Dress Goods,
SHAWLS,
SCARFS,
MANTILLAS
AND CLOAKS,
GLOVES,
HOSIERY,
CRAVATS,
HANDKERCHIEFS, &c.
CHOICE GOODS FOR MEN'S WEAR.

Mourning Goods

Of every description.

IRISH LINENS, LINEN GOODS, and articles of every description in the way of

Housekeeping Dry Goods.

ALWAYS ON HAND, such Goods as are required by

Planters and Farmers,

For servants' use:

Such as bleached and Brown COTTONS, OSNABURGS, JEANS, LINSEYS, PLAIDS, Fullled CLOTHS, SATINETTS, BLANKETS, &c.

NO DEVIATION FROM FIRST PRICE NAMED FOR ANY ARTICLE.

WHOLESALE ROOMS on second and third floors.

First premium.
land Institute Fair,

Kirby's Reaper Mower,

With Self-Raking Attachment.

D. M. OSBORNE & CO.,
MANUFACTURERS.

These combined Reapers and Mowers are universally acknowledged, where they are known, to be the best and most reliable Combined Machines made and sold in America. They have been sold throughout the Southern States since 1857.

So popular and celebrated have these

Kirby's Combined

Reapers and Mowers

become that it is often impossible to supply the demand for them. Every well regulated farm should have one of them on it. They are light two-horse Machines. Price always reasonable.

For further particulars address

E. G. EDWARDS,

General Agent for Southern States.

July 29 Light street, Baltimore, Md.

rs.

RS.—conducted with
purposes devoting
tion. I
presented to be. Having
parts—employing competent
I confidently appeal to the
works and plan of operation to
nired. Referring, for integrity of
onal Bank; R. Mickle, Esq., Cashier
ident of the Western National Bank;
generally. I am, respectfully,

No. 68 South street, Baltimore.

hausted by heavy cropping. They are renovated by
ry simple—a mere return of elements taken from the
y, and add still more if we would increase its produc-
move Soda, Potash, Lime, Sulphuric and Phosphoric
Guano is not properly proportioned—containing ammonia
of the salts. A manure must supply all the ingredients in
neral manure. It will not do to depend upon ammonia and
but Alkalis, the Chlorine, and Sulphuric Acid, must be pro-
have been compounded to meet the general want, and have
ent scientific authority, and the closest investigation is challenged.
inciples have been honestly carried out in practice. The alkaline
ed in the fertilizers now offered for sale.

AMMONIATED ALKALINE PHOSPHATE.

ents for crop and soil, as per analysis annexed, and cannot be too strongly
Tobacco, Cotton, Corn, &c. \$55 per ton, 2,000 weight.

port of Analysis of G. Oser's Ammoniated Alkaline Phosphate.

Combined water.....	26.20	Phosphoric Acid.....	12.21
Ammonia, 2.78.)	28.82	(Equivalent to Bone Phosphate of Lime, 26.46.)	
4.88	4.88	Sulphuric Acid.....	16.81
1.88	1.88	Magnesia, Iron, &c., not estimated.....	3.04
6.66	6.66		100.00

will be seen from the above statement of the constitution of this article, that it is an excellent general manure
the plants for which it is recommended, containing as it does the inorganic ingredients required by these crops,
d enough ammonia, to give a good start to them at the beginning. It is compounded upon correct principles, and
as evidently been carefully made. I have no doubt that it will prove a valuable addition to the stock of fertilisers.

A. SNOWDEN PIGGOT, M. D., Analytical and Consulting Chemist.

ALKALINE PHOSPHATE.

A very soluble phosphatic and alkaline compound, within a fraction of 140 pounds Potash to
every ton. Who can doubt its value—for all crops—absorbing moisture and receiving ammonia from
the atmosphere? For Grass it has no equal; and every farmer growing wheat with grass, and using
any other preparation, should use this compound, if for that alone. \$45 per ton, 2,000 weight.

Report of Analysis of Alkaline Phosphate.

Water and organic matter (containing a trace of Ammonia).....	12.70	Phosphoric Acid.....	5.29
Soluble Silica.....	0.79	Equal to Bone Phosphate of Lime, 12.98	
Insoluble Silica and Silicates.....	18.85	Sulphuric Acid.....	10.69
Lime.....	18.74	Magnesia, Oxide of Iron, &c., not estimated.....	7.04
Alkaline Salts.....	25.20		100.00

Containing Potash, 6.98; Soda, 4.15; Chlorine, 5.53.

It is very evident that the above will prove an excellent fertiliser for all soils or crops requiring Alkalies.—
Wherever ashes are beneficial, this manure will prove much more efficacious, by reason of its far greater richness in
Potash and Soda. The presence of a notable quantity of Phosphates gives an additional value to it, which confers
upon it a more general character. I have no doubt that it will prove highly beneficial, especially to Corn, Tobacco,
and Cotton, and as a top-dressing for Grain and Grass.

A. SNOWDEN PIGGOT, M. D.,
Analytical and Consulting Chemist.

50 S. Gay st., Baltimore, February 24th, 1866.

My faith in the foregoing preparations is so strong, that I give any farmer *doubting*, an opportunity
to have them analyzed by Prof. Piggot, at my expense. The *spring application* promises very
handsomely thus far.

